SEQUENCE LISTING

<110> Takeda Pharmaceutical Company Limited

<120> PREVENTIVE/REMEDY FOR RESPIRATORY DISEASES

<130> G06-0052

<150> JP2004-092064
<151> 2004-03-26

<160> 73

<210> 1
<211> 816
<212> DNA
<213> Homo sapience

<400> 1
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gtcatcttct ccatcaccac atacgtgggc ttttgcctgc ccttcgtggt cctggatatc 180
ctgtgctcct gggtgcccgc cctgcggcgc tacaagatcc accctgactt ctcgccatcc 240
gcgcagcagc tgctaccttg cctggggcag accctctacc agcatgtgat gtttgtgttc 300
cccgtgacgc tgctgcattg ggcccgcagc ccggccctcc tgccccacga agctcccgag 360
ctgctcctgc tgctgcacca catcctgttc tgcctgctac tcttcgacat ggagttcttc 420
gtgtggcacc tgctgcacca caaggtgccc tggctgtacc gcaccttcca caaggtgcac 480
caccagaact cgtcctcgtt cgcgctggca acgcagtata tgagcgtctg ggaactgttt 540
tctttgggct tcttcgacat gatgaacgtc acactgctcg ggtgccaccc gctcaccacc 600
ctgaccttcc acgtggtcaa catctggctt tccgtggagg accactccgg ctacaacttc 660
ccttggtcca ctcacagact ggtgcccttc gggtggtacg ggggtgtggt gcaccacgac 720
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ctgggaacgc tgcggactgc atctgtccca gcgcgg 816

<210> 2
<211> 272
<212> PRT
<213> Homo sapience

<400> 2
Met Ser Cys His Asn Cys Ser Asp Pro Gln Val Leu Cys Ser Ser Gly
1 5 10 15
Gln Leu Phe Leu Gln Pro Leu Trp Asp His Leu Arg Ser Trp Glu Ala
20 25 30
Leu Leu Gln Ser Pro Phe Phe Pro Val Ile Phe Ser Ile Thr Thr Tyr
35 40 45
Val Gly Phe Cys Leu Pro Phe Val Val Leu Asp Ile Leu Cys Ser Trp

```
     50                  55                  60
Val Pro Ala Leu Arg Arg Tyr Lys Ile His Pro Asp Phe Ser Pro Ser
 65                  70                  75                  80
Ala Gln Gln Leu Leu Pro Cys Leu Gly Gln Thr Leu Tyr Gln His Val
                 85                  90                  95
Met Phe Val Phe Pro Val Thr Leu Leu His Trp Ala Arg Ser Pro Ala
            100                 105                 110
Leu Leu Pro His Glu Ala Pro Glu Leu Leu Leu Leu Leu His His Ile
        115                 120                 125
Leu Phe Cys Leu Leu Leu Phe Asp Met Glu Phe Phe Val Trp His Leu
    130                 135                 140
Leu His His Lys Val Pro Trp Leu Tyr Arg Thr Phe His Lys Val His
145                 150                 155                 160
His Gln Asn Ser Ser Ser Phe Ala Leu Ala Thr Gln Tyr Met Ser Val
                165                 170                 175
Trp Glu Leu Phe Ser Leu Gly Phe Phe Asp Met Met Asn Val Thr Leu
            180                 185                 190
Leu Gly Cys His Pro Leu Thr Thr Leu Thr Phe His Val Val Asn Ile
        195                 200                 205
Trp Leu Ser Val Glu Asp His Ser Gly Tyr Asn Phe Pro Trp Ser Thr
    210                 215                 220
His Arg Leu Val Pro Phe Gly Trp Tyr Gly Gly Val Val His His Asp
225                 230                 235                 240
Leu His His Ser His Phe Asn Cys Asn Phe Ala Pro Tyr Phe Thr His
                245                 250                 255
Trp Asp Lys Ile Leu Gly Thr Leu Arg Thr Ala Ser Val Pro Ala Arg
            260                 265                 270
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<210> 3
<211> 924
<212> DNA
<213> Homo sapience

<400> 3

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ctctcgtggc tgccgcatgg gggcgccctg tctctggccg aggcgagccg cgcaagtttc   120
ccgggaccct cagagttgca ctccgaagac tccagattcc gagagttgcg gaaacgctac   180
gaggacctgc taaccaggct gcgggccaac cagagctggg aagattcgaa caccgacctc   240
gtcccggccc ctgcagtccg gatactcacg ccagaagtgc ggctgggatc cggcggccac   300
ctgcacctgc gtatctctcg ggccgccctt cctgaggggc tccccgaggc ctcccgcctt   360
caccgggctc tgttccggct gtccccgacg gcgtcaaggt cgtgggacgt gacacgaccg   420
ctgcggcgtc agctcagcct tgcaagaccc caggcgcccg cgctgcacct gcgactgtcg   480
ccgccgccgt cgcagtcgga ccaactgctg gcagaatctt cgtccgcacg gccccagctg   540
gagttgcact tgcggccgca agccgccagg gggcgccgca gagcgcgtgc gcgcaacggg   600
gaccactgtc cgctcgggcc cgggcgttgc tgccgtctgc acacggtccg cgcgtcgctg   660
gaagacctgg gctgggccga ttgggtgctg tcgccacggg aggtgcaagt gaccatgtgc   720
atcggcgcgt gccccgagcca gttccgggcg gcaaacatgc acgcgcagat caagacgagc   780
```

ctgcaccgcc tgaagcccga cacggtgcca gcgccctgct gcgtgcccgc cagctacaat 840
cccatggtgc tcattcaaaa gaccgacacc ggggtgtcgc tccagaccta tgatgacttg 900
ttagccaaag actgccactg cata 924

<210> 4
<211> 308
<212> PRT
<213> Homo sapience

<400> 4

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Met Pro Gly Gln Glu Leu Arg Thr Leu Asn Gly Ser Gln Met Leu Leu
                5                  10                  15
Val Leu Leu Val Leu Ser Trp Leu Pro His Gly Gly Ala Leu Ser Leu
            20                  25                  30
Ala Glu Ala Ser Arg Ala Ser Phe Pro Gly Pro Ser Glu Leu His Ser
        35                  40                  45
Glu Asp Ser Arg Phe Arg Glu Leu Arg Lys Arg Tyr Glu Asp Leu Leu
    50                  55                  60
Thr Arg Leu Arg Ala Asn Gln Ser Trp Glu Asp Ser Asn Thr Asp Leu
65                  70                  75                  80
Val Pro Ala Pro Ala Val Arg Ile Leu Thr Pro Glu Val Arg Leu Gly
                85                  90                  95
Ser Gly Gly His Leu His Leu Arg Ile Ser Arg Ala Ala Leu Pro Glu
            100                 105                 110
Gly Leu Pro Glu Ala Ser Arg Leu His Arg Ala Leu Phe Arg Leu Ser
        115                 120                 125
Pro Thr Ala Ser Arg Ser Trp Asp Val Thr Arg Pro Leu Arg Arg Gln
    130                 135                 140
Leu Ser Leu Ala Arg Pro Gln Ala Pro Ala Leu His Leu Arg Leu Ser
145                 150                 155                 160
Pro Pro Pro Ser Gln Ser Asp Gln Leu Leu Ala Glu Ser Ser Ser Ala
                165                 170                 175
Arg Pro Gln Leu Glu Leu His Leu Arg Pro Gln Ala Ala Arg Gly Arg
            180                 185                 190
Arg Arg Ala Arg Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Gly
        195                 200                 205
Arg Cys Cys Arg Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly
    210                 215                 220
Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys
225                 230                 235                 240
Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln
                245                 250                 255
Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro
            260                 265                 270
Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr
        275                 280                 285
Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp
```

```
    290                 295                 300
Cys His Cys Ile
305
```

<210> 5
<211> 621
<212> DNA
<213> Homo sapience

<400> 5

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atggctggac ctgccaccca gagccccatg aagctgatgg ccctgcagct gctgctgtgg    60
cacagtgcac tctggacagt gcaggaagcc acccccctgg gccctgccag ctccctgccc   120
cagagcttcc tgctcaagtg cttagagcaa gtgaggaaga tccagggcga tggcgcagcg   180
ctccaggaga agctggtgag tgagtgtgcc acctacaagc tgtgccaccc cgaggagctg   240
gtgctgctcg gacactctct gggcatcccc tgggctcccc tgagcagctg ccccagccag   300
gccctgcagc tggcaggctg cttgagccaa ctccatagcg gccttttcct ctaccagggg   360
ctcctgcagg ccctggaagg gatctccccc gagttgggtc ccaccttgga cacactgcag   420
ctggacgtcg ccgactttgc caccaccatc tggcagcaga tggaagaact gggaatggcc   480
cctgccctgc agcccaccca gggtgccatg ccggccttcg cctctgcttt ccagcgccgg   540
gcaggagggg tcctggttgc ctcccatctg cagagcttcc tggaggtgtc gtaccgcgtt   600
ctacgccacc ttgcccagcc c                                             621
```

<210> 6
<211> 207
<212> PRT
<213> Homo sapience

<400> 6

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Met Ala Gly Pro Ala Thr Gln Ser Pro Met Lys Leu Met Ala Leu Gln
                5                  10                  15
Leu Leu Leu Trp His Ser Ala Leu Trp Thr Val Gln Glu Ala Thr Pro
            20                  25                  30
Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys Cys Leu
        35                  40                  45
Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln Glu Lys
    50                  55                  60
Leu Val Ser Glu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu
65                  70                  75                  80
Val Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser
                85                  90                  95
Cys Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His
            100                 105                 110
Ser Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile
        115                 120                 125
Ser Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala
    130                 135                 140
Asp Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala
```

```
145                 150                 155                 160
Pro Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala
                165                 170                 175
Phe Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser
            180                 185                 190
Phe Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
        195                 200                 205
```

<210> 7
<211> 696
<212> DNA
<213> Homo sapience

<400> 7

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atgaaggaga gacgggcccc ccagccagtc gtggccagat gtaagctcgt tctggtcggg    60
gacgtgcagt gtgggaagac cgcgatgttg caagtgttag cgaaggattg ctatccagag   120
acctatgtgc ccaccgtgtt cgaaaattac acagcctgtt tggagacaga ggaacagagg   180
gtggagctta gtctctggga tacctcagga tctccctact acgataatgt ccgtccactc   240
tgctacagcg actcggatgc agtattacta tgttttgaca tcagccgtcc agagacagtg   300
gacagcgcac tcaagaagtg gaggacagaa atcctagatt attgtcccag cacccgcgtt   360
ttgctcattg gctgcaagac agacctgcga acagacctga gtactctgat ggagctgtcc   420
caccagaagc aggcgcccat ctcctatgag cagggttgtg caatagcaaa gcagctgggt   480
gcagaaatct acctggaagg ctcagctttc acctcagaaa agagcatcca cagcatcttt   540
cggacggcat ccatgctgtg tctgaacaag cctagcccac tgccccagaa gagccctgtc   600
cgaagcctct ccaaacgact gctccacctc cccagtcgct ctgaactcat ctcttctacc   660
ttcaagaagg aaaaggccaa aagctgttcc attatg                              696
```

<210> 8
<211> 232
<212> PRT
<213> Homo sapience

<400> 8

```
Met Lys Glu Arg Arg Ala Pro Gln Pro Val Val Ala Arg Cys Lys Leu
                5                   10                  15
Val Leu Val Gly Asp Val Gln Cys Gly Lys Thr Ala Met Leu Gln Val
            20                  25                  30
Leu Ala Lys Asp Cys Tyr Pro Glu Thr Tyr Val Pro Thr Val Phe Glu
        35                  40                  45
Asn Tyr Thr Ala Cys Leu Glu Thr Glu Glu Gln Arg Val Glu Leu Ser
    50                  55                  60
Leu Trp Asp Thr Ser Gly Ser Pro Tyr Tyr Asp Asn Val Arg Pro Leu
65                  70                  75                  80
Cys Tyr Ser Asp Ser Asp Ala Val Leu Leu Cys Phe Asp Ile Ser Arg
                85                  90                  95
Pro Glu Thr Val Asp Ser Ala Leu Lys Lys Trp Arg Thr Glu Ile Leu
            100                 105                 110
```

```
Asp Tyr Cys Pro Ser Thr Arg Val Leu Leu Ile Gly Cys Lys Thr Asp
        115                 120                 125
Leu Arg Thr Asp Leu Ser Thr Leu Met Glu Leu Ser His Gln Lys Gln
    130                 135                 140
Ala Pro Ile Ser Tyr Glu Gln Gly Cys Ala Ile Ala Lys Gln Leu Gly
145                 150                 155                 160
Ala Glu Ile Tyr Leu Glu Gly Ser Ala Phe Thr Ser Glu Lys Ser Ile
                165                 170                 175
His Ser Ile Phe Arg Thr Ala Ser Met Leu Cys Leu Asn Lys Pro Ser
            180                 185                 190
Pro Leu Pro Gln Lys Ser Pro Val Arg Ser Leu Ser Lys Arg Leu Leu
        195                 200                 205
His Leu Pro Ser Arg Ser Glu Leu Ile Ser Ser Thr Phe Lys Lys Glu
    210                 215                 220
Lys Ala Lys Ser Cys Ser Ile Met
225                 230
```

<210> 9
<211> 744
<212> DNA
<213> Homo sapience

<400> 9

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gacatggcag ccttcatgaa aggcgccgtg gagaagggcg aggagctctc ctgcgaagag   120
cgaaacctgc tctcagtagc ctataagaac gtggtgggcg gccagagggc tgcctggagg   180
gtgctgtcca gtattgagca gaaaagcaac gaggagggct cggaggagaa ggggcccgag   240
gtgcgtgagt accgggagaa ggtggagact gagctccagg gcgtgtgcga caccgtgctg   300
ggcctgctgg acagccacct catcaaggag gccggggacg ccgagagccg ggtcttctac   360
ctgaagatga agggtgacta ctaccgctac ctggccgagg tggccaccgg tgacgacaag   420
aagcgcatca ttgactcagc ccggtcagcc taccaggagg ccatggacat cagcaagaag   480
gagatgccgc ccaccaaccc catccgcctg ggcctggccc tgaactttc cgtcttccac   540
tacgagatcg ccaacagccc cgaggaggcc atctctctgg ccaagaccac tttcgacgag   600
gccatggctg atctgcacac cctcagcgag gactcctaca aagacagcac cctcatcatg   660
cagctgctgc gagacaacct gacactgtgg acggccgaca acgccgggga agaggggggc   720
gaggctcccc aggagcccca gagc                                          744
```

<210> 10
<211> 248
<212> PRT
<213> Homo sapience

<400> 10

```
Met Glu Arg Ala Ser Leu Ile Gln Lys Ala Lys Leu Ala Glu Gln Ala
                5                   10                  15
Glu Arg Tyr Glu Asp Met Ala Ala Phe Met Lys Gly Ala Val Glu Lys
            20                  25                  30
```

```
Gly Glu Glu Leu Ser Cys Glu Glu Arg Asn Leu Leu Ser Val Ala Tyr
         35                  40                  45
Lys Asn Val Val Gly Gly Gln Arg Ala Ala Trp Arg Val Leu Ser Ser
     50                  55                  60
Ile Glu Gln Lys Ser Asn Glu Glu Gly Ser Glu Glu Lys Gly Pro Glu
 65                  70                  75                  80
Val Arg Glu Tyr Arg Glu Lys Val Glu Thr Glu Leu Gln Gly Val Cys
                 85                  90                  95
Asp Thr Val Leu Gly Leu Leu Asp Ser His Leu Ile Lys Glu Ala Gly
            100                 105                 110
Asp Ala Glu Ser Arg Val Phe Tyr Leu Lys Met Lys Gly Asp Tyr Tyr
        115                 120                 125
Arg Tyr Leu Ala Glu Val Ala Thr Gly Asp Asp Lys Lys Arg Ile Ile
    130                 135                 140
Asp Ser Ala Arg Ser Ala Tyr Gln Glu Ala Met Asp Ile Ser Lys Lys
145                 150                 155                 160
Glu Met Pro Pro Thr Asn Pro Ile Arg Leu Gly Leu Ala Leu Asn Phe
                165                 170                 175
Ser Val Phe His Tyr Glu Ile Ala Asn Ser Pro Glu Glu Ala Ile Ser
            180                 185                 190
Leu Ala Lys Thr Thr Phe Asp Glu Ala Met Ala Asp Leu His Thr Leu
        195                 200                 205
Ser Glu Asp Ser Tyr Lys Asp Ser Thr Leu Ile Met Gln Leu Leu Arg
    210                 215                 220
Asp Asn Leu Thr Leu Trp Thr Ala Asp Asn Ala Gly Glu Glu Gly Gly
225                 230                 235                 240
Glu Ala Pro Gln Glu Pro Gln Ser
                245
```

<210> 11
<211> 819
<212> DNA
<213> Homo sapience

<400> 11

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atgggtcaga aggtcactgg agggatcaag actgtggaca tgagggaccc cacgtacagg    60
cccctgaagc aggagctcca gggtctggat tactgcaagc ccacccggct ggatctgcta   120
ctggacatgc cccctgtgtc ctatgatgtc cagctgctgc attcatggaa caacaacgac   180
cgatcgctca atgtctttgt gaaggaggac gacaagctca tctttcaccg gcatccggtg   240
gcccagagca cggacgctat cagggggcaaa gtcgggtata cccgtgggct gcacgtgtgg   300
cagatcacgt gggccatgag acagcggggc acacacgccg tggtgggggt ggcgacggca   360
gacgcccccc tgcactctgt cgggtacaca accctcgtgg ggaataacca cgagtcctgg   420
ggctgggact tggggcgcaa ccggctctac cacgatggca agaaccagcc aagcaaaaca   480
tacccagcct ttctggaacc agatgagaca ttcattgtcc ctgactcctt cctggtagcc   540
ctggacatgg acgacgggac tctgagcttc attgtggatg gacagtacat gggagtggct   600
tttcggggac tcaagggcaa aaaactgtat cctgtagtga gtgccgtctg gggccactgt   660
gagatccgaa tgcgctactt gaacggactc gatcccgagc cgctgccgct catggatttg   720
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tgccgtcgct cggtgcgcct ggccctgggg agggagcgcc tgggggagat ccacacgctg 780
ccgctgccgg ctccctcaa ggcctacctc ctctaccag 819

<210> 12
<211> 273
<212> PRT
<213> Homo sapience

<400> 12
Met Gly Gln Lys Val Thr Gly Gly Ile Lys Thr Val Asp Met Arg Asp
1 5 10 15
Pro Thr Tyr Arg Pro Leu Lys Gln Glu Leu Gln Gly Leu Asp Tyr Cys
20 25 30
Lys Pro Thr Arg Leu Asp Leu Leu Leu Asp Met Pro Pro Val Ser Tyr
35 40 45
Asp Val Gln Leu Leu His Ser Trp Asn Asn Asn Asp Arg Ser Leu Asn
50 55 60
Val Phe Val Lys Glu Asp Asp Lys Leu Ile Phe His Arg His Pro Val
65 70 75 80
Ala Gln Ser Thr Asp Ala Ile Arg Gly Lys Val Gly Tyr Thr Arg Gly
85 90 95
Leu His Val Trp Gln Ile Thr Trp Ala Met Arg Gln Arg Gly Thr His
100 105 110
Ala Val Val Gly Val Ala Thr Ala Asp Ala Pro Leu His Ser Val Gly
115 120 125
Tyr Thr Thr Leu Val Gly Asn Asn His Glu Ser Trp Gly Trp Asp Leu
130 135 140
Gly Arg Asn Arg Leu Tyr His Asp Gly Lys Asn Gln Pro Ser Lys Thr
145 150 155 160
Tyr Pro Ala Phe Leu Glu Pro Asp Glu Thr Phe Ile Val Pro Asp Ser
165 170 175
Phe Leu Val Ala Leu Asp Met Asp Asp Gly Thr Leu Ser Phe Ile Val
180 185 190
Asp Gly Gln Tyr Met Gly Val Ala Phe Arg Gly Leu Lys Gly Lys Lys
195 200 205
Leu Tyr Pro Val Val Ser Ala Val Trp Gly His Cys Glu Ile Arg Met
210 215 220
Arg Tyr Leu Asn Gly Leu Asp Pro Glu Pro Leu Pro Leu Met Asp Leu
225 230 235 240
Cys Arg Arg Ser Val Arg Leu Ala Leu Gly Arg Glu Arg Leu Gly Glu
245 250 255
Ile His Thr Leu Pro Leu Pro Ala Ser Leu Lys Ala Tyr Leu Leu Tyr
260 265 270
Gln

<210> 13
<211> 2370

<212> DNA
<213> Homo sapience

<400> 13
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atacgggaga gaactccaga agacatttt aaacctacta atgggatcat tcatcatttt 120
aaaaccatgc accgatacac actggaaatg ttcagaactt gccagttttg tcctcagttt 180
cgggagatca tccacaaagc cctcatcgac agaaacatcc aggccaccct ggaaagccag 240
aagaaactca actggtgtcg agaagtccgg aagcttgtgg cgctgaaaac gaacggtgac 300
ggcaattgcc tcatgcatgc cacttctcag tacatgtggg gcgttcagga cacagacttg 360
gtactgagga aggcgctgtt cagcacgctc aaggaaacag acacacgcaa ctttaaattc 420
cgctggcaac tggagtctct caaatctcag gaatttgttg aaacggggct ttgctatgat 480
actcggaact ggaatgatga atgggacaat cttatcaaaa tggcttccac agacacaccc 540
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ggttccaatt tcgcccctt gaaagtgggt ggaatttact tgcctctcca ctggcctgcc 720
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gtgaccctga aggacagtgg gcctgaaatc cgagctgttc cacttgttaa cagagaccgg 840
ggaagatttg aagacttaaa agttcacttt ttgacagatc ctgaaaatga gatgaaggag 900
aagctcttaa aagagtactt aatggtgata gaaatccccg tccaaggctg ggaccatggc 960
acaactcatc tcatcaatgc cgcaaagttg gatgaagcta acttaccaaa agaaatcaat 1020
ctggtagatg attactttga acttgttcag catgagtaca agaaatggca ggaaaacagc 1080
gagcagggga ggagagaggg gcacgcccag aatcccatgg aaccttccgt gccccagctt 1140
tctctcatgg atgtaaaatg tgaaacgccc aactgcccct tcttcatgtc tgtgaacacc 1200
cagcctttat gccatgagtg ctcagagagg cggcaaaaga atcaaaacaa actcccaaag 1260
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gaagcctatg agcccttggc gtggaaccct gaggagtcca ctgggggccc tcattcggcc 1380
ccaccgacag cacccagccc ttttctgttc agtgagacca ctgccatgaa gtgcaggagc 1440
cccggctgcc ccttcacact gaatgtgcag cacaacggat tttgtgaacg ttgccacaac 1500
gcccggcaac ttcacgccag ccacgcccca gaccacacaa ggcacttgga tcccgggaag 1560
tgccaagcct gcctccagga tgttaccagg acatttaatg ggatctgcag tacttgcttc 1620
aaaaggacta cagcagaggc ctcctccagc ctcagcacca gcctccctcc ttcctgtcac 1680
cagcgttcca agtcagatcc ctcgcggctc gtccggagcc cctccccgca ttcttgccac 1740
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aggacgggga cgagcaagtg cagaaaagcc ggctgcgtgt attttgggac tccagaaaac 1860
aagggctttt gcacactgtg tttcatcgag tacagagaaa acaaacattt tgctgctgcc 1920
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gaatgcggca cccttggaag caccatgttt gaaggatact gccagaagtg tttcattgaa 2040
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cgcagagatg tgcctcgaac cacacaaagc acctcaaggc ccaagtgcgc ccgggcctcc 2160
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cagaggatgg gccctggggc ccaccggggt gagcctgccc ccgaagaccc ccccaagcag 2280
cgttgccggg cccccgcctg tgatcatttt ggcaatgcca agtgcaacgg ctactgcaac 2340
gaatgctttc agttcaagca gatgtatggc 2370

<210> 14
<211> 790

<212> PRT
<213> Homo sapience

<400> 14

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Met Ala Glu Gln Val Leu Pro Gln Ala Leu Tyr Leu Ser Asn Met Arg
                5                  10                  15
Lys Ala Val Lys Ile Arg Glu Arg Thr Pro Glu Asp Ile Phe Lys Pro
            20                  25                  30
Thr Asn Gly Ile Ile His His Phe Lys Thr Met His Arg Tyr Thr Leu
        35                  40                  45
Glu Met Phe Arg Thr Cys Gln Phe Cys Pro Gln Phe Arg Glu Ile Ile
    50                  55                  60
His Lys Ala Leu Ile Asp Arg Asn Ile Gln Ala Thr Leu Glu Ser Gln
65                  70                  75                  80
Lys Lys Leu Asn Trp Cys Arg Glu Val Arg Lys Leu Val Ala Leu Lys
                85                  90                  95
Thr Asn Gly Asp Gly Asn Cys Leu Met His Ala Thr Ser Gln Tyr Met
            100                 105                 110
Trp Gly Val Gln Asp Thr Asp Leu Val Leu Arg Lys Ala Leu Phe Ser
        115                 120                 125
Thr Leu Lys Glu Thr Asp Thr Arg Asn Phe Lys Phe Arg Trp Gln Leu
    130                 135                 140
Glu Ser Leu Lys Ser Gln Glu Phe Val Glu Thr Gly Leu Cys Tyr Asp
145                 150                 155                 160
Thr Arg Asn Trp Asn Asp Glu Trp Asp Asn Leu Ile Lys Met Ala Ser
                165                 170                 175
Thr Asp Thr Pro Met Ala Arg Ser Gly Leu Gln Tyr Asn Ser Leu Glu
            180                 185                 190
Glu Ile His Ile Phe Val Leu Cys Asn Ile Leu Arg Arg Pro Ile Ile
        195                 200                 205
Val Ile Ser Asp Lys Met Leu Arg Ser Leu Glu Ser Gly Ser Asn Phe
    210                 215                 220
Ala Pro Leu Lys Val Gly Gly Ile Tyr Leu Pro Leu His Trp Pro Ala
225                 230                 235                 240
Gln Glu Cys Tyr Arg Tyr Pro Ile Val Leu Gly Tyr Asp Ser His His
                245                 250                 255
Phe Val Pro Leu Val Thr Leu Lys Asp Ser Gly Pro Glu Ile Arg Ala
            260                 265                 270
Val Pro Leu Val Asn Arg Asp Arg Gly Arg Phe Glu Asp Leu Lys Val
        275                 280                 285
His Phe Leu Thr Asp Pro Glu Asn Glu Met Lys Glu Lys Leu Leu Lys
    290                 295                 300
Glu Tyr Leu Met Val Ile Glu Ile Pro Val Gln Gly Trp Asp His Gly
305                 310                 315                 320
Thr Thr His Leu Ile Asn Ala Ala Lys Leu Asp Glu Ala Asn Leu Pro
                325                 330                 335
Lys Glu Ile Asn Leu Val Asp Asp Tyr Phe Glu Leu Val Gln His Glu
```

```
                340                 345                 350
Tyr Lys Lys Trp Gln Glu Asn Ser Glu Gln Gly Arg Arg Glu Gly His
        355                 360                 365
Ala Gln Asn Pro Met Glu Pro Ser Val Pro Gln Leu Ser Leu Met Asp
    370                 375                 380
Val Lys Cys Glu Thr Pro Asn Cys Pro Phe Phe Met Ser Val Asn Thr
385                 390                 395                 400
Gln Pro Leu Cys His Glu Cys Ser Glu Arg Arg Gln Lys Asn Gln Asn
                405                 410                 415
Lys Leu Pro Lys Leu Asn Ser Lys Pro Gly Pro Glu Gly Leu Pro Gly
            420                 425                 430
Met Ala Leu Gly Ala Ser Arg Gly Glu Ala Tyr Glu Pro Leu Ala Trp
        435                 440                 445
Asn Pro Glu Glu Ser Thr Gly Gly Pro His Ser Ala Pro Pro Thr Ala
    450                 455                 460
Pro Ser Pro Phe Leu Phe Ser Glu Thr Thr Ala Met Lys Cys Arg Ser
465                 470                 475                 480
Pro Gly Cys Pro Phe Thr Leu Asn Val Gln His Asn Gly Phe Cys Glu
                485                 490                 495
Arg Cys His Asn Ala Arg Gln Leu His Ala Ser His Ala Pro Asp His
            500                 505                 510
Thr Arg His Leu Asp Pro Gly Lys Cys Gln Ala Cys Leu Gln Asp Val
        515                 520                 525
Thr Arg Thr Phe Asn Gly Ile Cys Ser Thr Cys Phe Lys Arg Thr Thr
    530                 535                 540
Ala Glu Ala Ser Ser Ser Leu Ser Thr Ser Leu Pro Pro Ser Cys His
545                 550                 555                 560
Gln Arg Ser Lys Ser Asp Pro Ser Arg Leu Val Arg Ser Pro Ser Pro
                565                 570                 575
His Ser Cys His Arg Ala Gly Asn Asp Ala Pro Ala Gly Cys Leu Ser
            580                 585                 590
Gln Ala Ala Arg Thr Pro Gly Asp Arg Thr Gly Thr Ser Lys Cys Arg
        595                 600                 605
Lys Ala Gly Cys Val Tyr Phe Gly Thr Pro Glu Asn Lys Gly Phe Cys
    610                 615                 620
Thr Leu Cys Phe Ile Glu Tyr Arg Glu Asn Lys His Phe Ala Ala Ala
625                 630                 635                 640
Ser Gly Lys Val Ser Pro Thr Ala Ser Arg Phe Gln Asn Thr Ile Pro
                645                 650                 655
Cys Leu Gly Arg Glu Cys Gly Thr Leu Gly Ser Thr Met Phe Glu Gly
            660                 665                 670
Tyr Cys Gln Lys Cys Phe Ile Glu Ala Gln Asn Gln Arg Phe His Glu
        675                 680                 685
Ala Lys Arg Thr Glu Glu Gln Leu Arg Ser Ser Gln Arg Arg Asp Val
    690                 695                 700
Pro Arg Thr Thr Gln Ser Thr Ser Arg Pro Lys Cys Ala Arg Ala Ser
705                 710                 715                 720
```

```
Cys Lys Asn Ile Leu Ala Cys Arg Ser Glu Glu Leu Cys Met Glu Cys
                725                 730                 735
Gln His Pro Asn Gln Arg Met Gly Pro Gly Ala His Arg Gly Glu Pro
            740                 745                 750
Ala Pro Glu Asp Pro Pro Lys Gln Arg Cys Arg Ala Pro Ala Cys Asp
        755                 760                 765
His Phe Gly Asn Ala Lys Cys Asn Gly Tyr Cys Asn Glu Cys Phe Gln
    770                 775                 780
Phe Lys Gln Met Tyr Gly
785                 790
```

<210> 15
<211> 831
<212> DNA
<213> Homo sapience

<400> 15

```
atgatcatct taatttactt atttctcttg ctatgggaag acactcaagg atggggattc    60
aaggatggaa ttttttcataa ctccatatgg cttgaacgag cagccggtgt gtaccacaga   120
gaagcacggt ctggcaaata caagctcacc tacgcagaag ctaaggcggt gtgtgaattt   180
gaaggcggcc atctcgcaac ttacaagcag ctagaggcag ccagaaaaat tggatttcat   240
gtctgtgctg ctggatggat ggctaagggc agagttggat accccattgt gaagccaggg   300
cccaactgtg gatttggaaa aactggcatt attgattatg gaatccgtct caataggagt   360
gaaagatggg atgcctattg ctacaaccca cacgcaaagg agtgtggtgg cgtctttaca   420
gatccaaagc aaatttttaa atctccaggc ttcccaaatg agtacgaaga taaccaaatc   480
tgctactggc acattagact caagtatggt cagcgtattc acctgagttt tttagatttt   540
gaccttgaag atgacccagg ttgcttggct gattatgttg aaatatatga cagttacgat   600
gatgtccatg gctttgtggg aagatactgt ggagatgagc ttccagatga catcatcagt   660
acaggaaatg tcatgacctt gaagtttcta agtgatgctt cagtgacagc tggaggtttc   720
caaatcaaat atgttgcaat ggatcctgta tccaaatcca gtcaaggaaa aaatacaagt   780
actacttcta ctggaaataa aaacttttta gctggaagat ttagccactt a            831
```

<210> 16
<211> 277
<212> PRT
<213> Homo sapience

<400> 16

```
Met Ile Ile Leu Ile Tyr Leu Phe Leu Leu Leu Trp Glu Asp Thr Gln
                5                   10                  15
Gly Trp Gly Phe Lys Asp Gly Ile Phe His Asn Ser Ile Trp Leu Glu
            20                  25                  30
Arg Ala Ala Gly Val Tyr His Arg Glu Ala Arg Ser Gly Lys Tyr Lys
        35                  40                  45
Leu Thr Tyr Ala Glu Ala Lys Ala Val Cys Glu Phe Glu Gly Gly His
    50                  55                  60
Leu Ala Thr Tyr Lys Gln Leu Glu Ala Ala Arg Lys Ile Gly Phe His
```

```
 65                  70                  75                  80
Val Cys Ala Ala Gly Trp Met Ala Lys Gly Arg Val Gly Tyr Pro Ile
                 85                  90                  95
Val Lys Pro Gly Pro Asn Cys Gly Phe Gly Lys Thr Gly Ile Ile Asp
            100                 105                 110
Tyr Gly Ile Arg Leu Asn Arg Ser Glu Arg Trp Asp Ala Tyr Cys Tyr
        115                 120                 125
Asn Pro His Ala Lys Glu Cys Gly Gly Val Phe Thr Asp Pro Lys Gln
    130                 135                 140
Ile Phe Lys Ser Pro Gly Phe Pro Asn Glu Tyr Glu Asp Asn Gln Ile
145                 150                 155                 160
Cys Tyr Trp His Ile Arg Leu Lys Tyr Gly Gln Arg Ile His Leu Ser
                165                 170                 175
Phe Leu Asp Phe Asp Leu Glu Asp Asp Pro Gly Cys Leu Ala Asp Tyr
            180                 185                 190
Val Glu Ile Tyr Asp Ser Tyr Asp Asp Val His Gly Phe Val Gly Arg
        195                 200                 205
Tyr Cys Gly Asp Glu Leu Pro Asp Asp Ile Ile Ser Thr Gly Asn Val
    210                 215                 220
Met Thr Leu Lys Phe Leu Ser Asp Ala Ser Val Thr Ala Gly Gly Phe
225                 230                 235                 240
Gln Ile Lys Tyr Val Ala Met Asp Pro Val Ser Lys Ser Ser Gln Gly
                245                 250                 255
Lys Asn Thr Ser Thr Thr Ser Thr Gly Asn Lys Asn Phe Leu Ala Gly
            260                 265                 270
Arg Phe Ser His Leu
        275
```

<210> 17
<211> 468
<212> DNA
<213> Homo sapience

<400> 17

```
atgtgtcact ctcgcagctg ccacccgacc atgaccatcc tgcaggcccc gaccccggcc    60
ccctccacca tcccgggacc ccggcggggc tccggtcctg agatcttcac cttcgaccct   120
ctcccggagc ccgcagcggc ccctgcccgg cgccccagcg cctctcgcgg gcaccgaaag   180
cgcagccgca gggttctcta ccctcgagtg gtccggcgcc agctgccagt cgaggaaccg   240
aacccagcca aaaggcttct ctttctgctg ctcaccatcg tcttctgcca gatcctgatg   300
gctgaagagg gtgtgccggc gcccctgcct ccagaggacg ccccctaacgc cgcatccctg   360
gcgcccaccc ctgtgtcccc cgtcctcgag ccctttaatc tgacttcgga gccctcggac   420
tacgctctgg acctcagcac tttcctccag caacacccgg ccgccttc                468
```

<210> 18
<211> 156
<212> PRT
<213> Homo sapience

<400> 18
Met Cys His Ser Arg Ser Cys His Pro Thr Met Thr Ile Leu Gln Ala
5 10 15
Pro Thr Pro Ala Pro Ser Thr Ile Pro Gly Pro Arg Arg Gly Ser Gly
20 25 30
Pro Glu Ile Phe Thr Phe Asp Pro Leu Pro Glu Pro Ala Ala Ala Pro
35 40 45
Ala Gly Arg Pro Ser Ala Ser Arg Gly His Arg Lys Arg Ser Arg Arg
50 55 60
Val Leu Tyr Pro Arg Val Val Arg Arg Gln Leu Pro Val Glu Glu Pro
65 70 75 80
Asn Pro Ala Lys Arg Leu Leu Phe Leu Leu Leu Thr Ile Val Phe Cys
85 90 95
Gln Ile Leu Met Ala Glu Glu Gly Val Pro Ala Pro Leu Pro Pro Glu
100 105 110
Asp Ala Pro Asn Ala Ala Ser Leu Ala Pro Thr Pro Val Ser Pro Val
115 120 125
Leu Glu Pro Phe Asn Leu Thr Ser Glu Pro Ser Asp Tyr Ala Leu Asp
130 135 140
Leu Ser Thr Phe Leu Gln Gln His Pro Ala Ala Phe
145 150 155

<210> 19
<211> 495
<212> DNA
<213> Homo sapience

<400> 19
atgactttgg aggaattctc ggctggagag cagaagaccg aaaggatgga taaggtgggg 60
gatgccctgg aggaagtgct cagcaaagcc ctgagtcagc gcacgatcac tgtcggggtg 120
tacgaagcgg ccaagctgct caacgtcgac cccgataacg tggtgttgtg cctgctggcg 180
gcggacgagg acgacgacag agatgtggct ctgcagatcc acttcaccct gatccaggcg 240
ttttgctgcg agaacgacat caacatcctg cgcgtcagca acccgggccg gctggcggag 300
ctcctgctct tggagaccga cgctggcccc gcggcgagcg agggcgccga gcagcccccg 360
gacctgcact gcgtgctggt gacgaatcca cattcatctc aatggaagga tcctgcctta 420
agtcaactta tttgttttig ccgggaaagt cgctacatgg atcaatgggt tccagtgatt 480
aatctccctg aacgg 495

<210> 20
<211> 165
<212> PRT
<213> Homo sapience

<400> 20
Met Thr Leu Glu Glu Phe Ser Ala Gly Glu Gln Lys Thr Glu Arg Met
5 10 15

```
Asp Lys Val Gly Asp Ala Leu Glu Glu Val Leu Ser Lys Ala Leu Ser
            20                  25                  30
Gln Arg Thr Ile Thr Val Gly Val Tyr Glu Ala Ala Lys Leu Leu Asn
        35                  40                  45
Val Asp Pro Asp Asn Val Val Leu Cys Leu Leu Ala Ala Asp Glu Asp
    50                  55                  60
Asp Asp Arg Asp Val Ala Leu Gln Ile His Phe Thr Leu Ile Gln Ala
65                  70                  75                  80
Phe Cys Cys Glu Asn Asp Ile Asn Ile Leu Arg Val Ser Asn Pro Gly
                85                  90                  95
Arg Leu Ala Glu Leu Leu Leu Leu Glu Thr Asp Ala Gly Pro Ala Ala
            100                 105                 110
Ser Glu Gly Ala Glu Gln Pro Pro Asp Leu His Cys Val Leu Val Thr
        115                 120                 125
Asn Pro His Ser Ser Gln Trp Lys Asp Pro Ala Leu Ser Gln Leu Ile
    130                 135                 140
Cys Phe Cys Arg Glu Ser Arg Tyr Met Asp Gln Trp Val Pro Val Ile
145                 150                 155                 160
Asn Leu Pro Glu Arg
                165
```

<210> 21
<211> 480
<212> DNA
<213> Homo sapience

<400> 21

```
atgacgctgg aagagctcgt ggcgtgcgac aacgcggcgc agaagatgca gacggtgacc    60
gccgcggtgg aggagctttt ggtggccgct cagcgccagg atcgcctcac agtgggggtg   120
tacgagtcgg ccaagttgat gaatgtggac ccagacagcg tggtcctctg cctcttggcc   180
attgacgagg aggaggagga tgacatcgcc ctgcaaatcc acttcacgct catccagtcc   240
ttctgctgtg acaacgacat caacatcgtg cgggtgtcgg gcatgcagcg cctggcgcag   300
ctcctgggag agccggccga gacccagggc accaccgagg cccgagacct gcattgtctc   360
ctggtcacga acgctcacac ggacgcctgg aagagccacg gcttggtgga ggtggccagc   420
tactgcgaag aaagccgggg caacaaccag tgggtcccct acatctctct tcaggaacgc   480
```

<210> 22
<211> 160
<212> PRT
<213> Homo sapience

<400> 22

```
Met Thr Leu Glu Glu Leu Val Ala Cys Asp Asn Ala Ala Gln Lys Met
                5                   10                  15
Gln Thr Val Thr Ala Ala Val Glu Glu Leu Leu Val Ala Ala Gln Arg
            20                  25                  30
Gln Asp Arg Leu Thr Val Gly Val Tyr Glu Ser Ala Lys Leu Met Asn
```

```
         35                  40                  45
Val Asp Pro Asp Ser Val Val Leu Cys Leu Leu Ala Ile Asp Glu Glu
     50                  55                  60
Glu Glu Asp Asp Ile Ala Leu Gln Ile His Phe Thr Leu Ile Gln Ser
 65                  70                  75                  80
Phe Cys Cys Asp Asn Asp Ile Asn Ile Val Arg Val Ser Gly Met Gln
                 85                  90                  95
Arg Leu Ala Gln Leu Leu Gly Glu Pro Ala Glu Thr Gln Gly Thr Thr
            100                 105                 110
Glu Ala Arg Asp Leu His Cys Leu Leu Val Thr Asn Pro His Thr Asp
        115                 120                 125
Ala Trp Lys Ser His Gly Leu Val Glu Val Ala Ser Tyr Cys Glu Glu
    130                 135                 140
Ser Arg Gly Asn Asn Gln Trp Val Pro Tyr Ile Ser Leu Gln Glu Arg
145                 150                 155                 160
```

<210> 23
<211> 531
<212> DNA
<213> Homo sapience

<400> 23

```
atggaaatct gcagaggcct ccgcagtcac ctaatcactc tcctcctctt cctgttccat    60
tcagagacga tctgccgacc ctctgggaga aaatccagca agatgcaagc cttcagaatc   120
tgggatgtta accagaagac cttctatctg aggaacaacc aactagttgc tggatacttg   180
caaggaccaa atgtcaattt agaagaaaag atagatgtgg tacccattga gcctcatgct   240
ctgttcttgg gaatccatgg agggaagatg tgcctgtcct gtgtcaagtc tggtgatgag   300
accagactcc agctggaggc agttaacatc actgacctga gcgagaacag aaagcaggac   360
aagcgcttcg ccttcatccg ctcagacagc ggccccacca ccagttttga gtctgccgcc   420
tgccccggtt ggttcctctg cacagcgatg gaagctgacc agccccgtcag cctcaccaat   480
atgcctgacg aaggcgtcat ggtcaccaaa ttctacttcc aggaggacga g             531
```

<210> 24
<211> 177
<212> PRT
<213> Homo sapience

<400> 24

```
Met Glu Ile Cys Arg Gly Leu Arg Ser His Leu Ile Thr Leu Leu Leu
                 5                  10                  15
Phe Leu Phe His Ser Glu Thr Ile Cys Arg Pro Ser Gly Arg Lys Ser
            20                  25                  30
Ser Lys Met Gln Ala Phe Arg Ile Trp Asp Val Asn Gln Lys Thr Phe
        35                  40                  45
Tyr Leu Arg Asn Asn Gln Leu Val Ala Gly Tyr Leu Gln Gly Pro Asn
    50                  55                  60
Val Asn Leu Glu Glu Lys Ile Asp Val Val Pro Ile Glu Pro His Ala
```

```
 65                  70                  75                  80
Leu Phe Leu Gly Ile His Gly Gly Lys Met Cys Leu Ser Cys Val Lys
                 85                  90                  95
Ser Gly Asp Glu Thr Arg Leu Gln Leu Glu Ala Val Asn Ile Thr Asp
            100                 105                 110
Leu Ser Glu Asn Arg Lys Gln Asp Lys Arg Phe Ala Phe Ile Arg Ser
        115                 120                 125
Asp Ser Gly Pro Thr Thr Ser Phe Glu Ser Ala Ala Cys Pro Gly Trp
    130                 135                 140
Phe Leu Cys Thr Ala Met Glu Ala Asp Gln Pro Val Ser Leu Thr Asn
145                 150                 155                 160
Met Pro Asp Glu Gly Val Met Val Thr Lys Phe Tyr Phe Gln Glu Asp
                165                 170                 175
Glu
```

<210> 25
<211> 594
<212> DNA
<213> Homo sapience

<400> 25

```
atgaccctgc ggtgccttga gccctccggg aatggcgggg aagggacgcg gagccagtgg    60
gggaccgcgg ggtcggcgga ggagccatcc ccgcaggcgg cgcgtctggc gaaggccctg   120
cgggagctcg gtcagacagg atggtactgg ggaagtatga ctgttaatga agccaaagag   180
aaattaaaag aggcaccaga aggaactttc ttgattagag atagctcgca ttcagactac   240
ctactaacaa tatctgttaa aacatcagct ggaccaacta atcttcgaat cgaataccaa   300
gacggaaaat tcagattgga ctctatcata tgtgtcaaat ccaagcttaa acaatttgac   360
agtgtggttc atctgatcga ctactatgtt cagatgtgca aggataagcg gacaggtcca   420
gaagcccccc ggaacggcac tgttcacctt tatctgacca aaccgctcta cacgtcagca   480
ccatctctgc agcatctctg taggctcacc attaacaaat gtaccggtgc catctgggga   540
ctgcctttac caacaagact aaaagattac ttggaagaat ataaattcca ggta          594
```

<210> 26
<211> 198
<212> PRT
<213> Homo sapience

<400> 26

```
Met Thr Leu Arg Cys Leu Glu Pro Ser Gly Asn Gly Gly Glu Gly Thr
                 5                  10                  15
Arg Ser Gln Trp Gly Thr Ala Gly Ser Ala Glu Glu Pro Ser Pro Gln
            20                  25                  30
Ala Ala Arg Leu Ala Lys Ala Leu Arg Glu Leu Gly Gln Thr Gly Trp
        35                  40                  45
Tyr Trp Gly Ser Met Thr Val Asn Glu Ala Lys Glu Lys Leu Lys Glu
    50                  55                  60
Ala Pro Glu Gly Thr Phe Leu Ile Arg Asp Ser Ser His Ser Asp Tyr
```

```
 65                  70                  75                  80
Leu Leu Thr Ile Ser Val Lys Thr Ser Ala Gly Pro Thr Asn Leu Arg
                 85                  90                  95
Ile Glu Tyr Gln Asp Gly Lys Phe Arg Leu Asp Ser Ile Ile Cys Val
            100                 105                 110
Lys Ser Lys Leu Lys Gln Phe Asp Ser Val Val His Leu Ile Asp Tyr
        115                 120                 125
Tyr Val Gln Met Cys Lys Asp Lys Arg Thr Gly Pro Glu Ala Pro Arg
    130                 135                 140
Asn Gly Thr Val His Leu Tyr Leu Thr Lys Pro Leu Tyr Thr Ser Ala
145                 150                 155                 160
Pro Ser Leu Gln His Leu Cys Arg Leu Thr Ile Asn Lys Cys Thr Gly
                165                 170                 175
Ala Ile Trp Gly Leu Pro Leu Pro Thr Arg Leu Lys Asp Tyr Leu Glu
            180                 185                 190
Glu Tyr Lys Phe Gln Val
        195
```

<210> 27
<211> 675
<212> DNA
<213> Homo sapience

<400> 27

```
atggtcaccc acagcaagtt tcccgccgcc gggatgagcc gccccctgga caccagcctg    60
cgcctcaaga ccttcagctc caagagcgag taccagctgg tggtgaacgc agtgcgcaag   120
ctgcaggaga gcggcttcta ctggagcgca gtgaccggcg gcgaggcgaa cctgctgctc   180
agtgccgagc ccgccggcac ctttctgatc cgcgacagct cggaccagcg ccacttcttc   240
acgctcagcg tcaagaccca gtctgggacc aagaacctgc gcatccagtg tgagggggcc   300
agcttctctc tgcagagcga tccccggagc acgcagcccg tgccccgctt cgactgcgtg   360
ctcaagctgg tgtaccacta catgccgccc cctggagccc cctccttccc ctcgccacct   420
actgaaccct cctccgaggt gcccgagcag ccgtctgccc agccactccc tgggagtccc   480
cccagaagag cctattacat ctactccggg ggcgagaaga tccccctggt gttgagccgg   540
cccctctcct ccaacgtggc cactcttcag catctctgtc ggaagaccgt caacggccac   600
ctggactcct atgagaaagt cacccagctg ccggggccca ttcgggagtt cctggaccag   660
tacgatgccc cgctt                                                    675
```

<210> 28
<211> 225
<212> PRT
<213> Homo sapience

<400> 28

```
Met Val Thr His Ser Lys Phe Pro Ala Ala Gly Met Ser Arg Pro Leu
                 5                  10                  15
Asp Thr Ser Leu Arg Leu Lys Thr Phe Ser Ser Lys Ser Glu Tyr Gln
            20                  25                  30
```

```
Leu Val Val Asn Ala Val Arg Lys Leu Gln Glu Ser Gly Phe Tyr Trp
         35                  40                  45
Ser Ala Val Thr Gly Gly Glu Ala Asn Leu Leu Leu Ser Ala Glu Pro
     50                  55                  60
Ala Gly Thr Phe Leu Ile Arg Asp Ser Ser Asp Gln Arg His Phe Phe
 65                  70                  75                  80
Thr Leu Ser Val Lys Thr Gln Ser Gly Thr Lys Asn Leu Arg Ile Gln
                 85                  90                  95
Cys Glu Gly Gly Ser Phe Ser Leu Gln Ser Asp Pro Arg Ser Thr Gln
            100                 105                 110
Pro Val Pro Arg Phe Asp Cys Val Leu Lys Leu Val Tyr His Tyr Met
        115                 120                 125
Pro Pro Pro Gly Ala Pro Ser Phe Pro Ser Pro Pro Thr Glu Pro Ser
    130                 135                 140
Ser Glu Val Pro Glu Gln Pro Ser Ala Gln Pro Leu Pro Gly Ser Pro
145                 150                 155                 160
Pro Arg Arg Ala Tyr Tyr Ile Tyr Ser Gly Gly Glu Lys Ile Pro Leu
                165                 170                 175
Val Leu Ser Arg Pro Leu Ser Ser Asn Val Ala Thr Leu Gln His Leu
            180                 185                 190
Cys Arg Lys Thr Val Asn Gly His Leu Asp Ser Tyr Glu Lys Val Thr
        195                 200                 205
Gln Leu Pro Gly Pro Ile Arg Glu Phe Leu Asp Gln Tyr Asp Ala Pro
    210                 215                 220
Leu
225
```

<210> 29
<211> 1524
<212> DNA
<213> Homo sapience

<400> 29

```
atgaactgcc agcagctgtg gctgggcttc ctactcccca tgacagtctc aggccgggtc    60
ctggggcttg cagaggtggc gcccgtggac tacctgtcac aatatgggta cctacagaag   120
cctctagaag gatctaataa cttcaagcca gaagatatca ccgaggctct gagagctttt   180
caggaagcat ctgaacttcc agtctcaggt cagctggatg atgccacaag ggcccgcatg   240
aggcagcctc gttgtggcct agaggatccc ttcaaccaga agacccttaa atacctgttg   300
ctgggccgct ggagaaagaa gcacctgact ttccgcatct tgaacctgcc ctccaccctt   360
ccacccccaca cagcccgggc agccctgcgt caagccttcc aggactggag caatgtggct   420
cccttgacct tccaagaggt gcaggctggt gcggctgaca tccgcctctc cttccatggc   480
cgccaaagct cgtactgttc caatactttt gatgggcctg ggagagtcct ggcccatgcc   540
gacatcccag agctgggcag tgtgcacttc gacgaagacg agttctggac tgaggggacc   600
taccgtgggg tgaacctgcg catcattgca gcccatgaag tgggccatgc tctggggctt   660
gggcactccc gatattccca ggccctcatg gccccagtct acgagggcta ccggccccac   720
tttaagctgc acccagatga tgtggcaggg atccaggctc tctatggcaa gaagagtcca   780
gtgataaggg atgaggaaga agaagagaca gagctgccca ctgtgccccc agtgcccaca   840
```

```
gaacccagtc ccatgccaga ccctigcagt agtgaactgg atgccatgat gctggggccc   900
cgtgggaaga cctatgcttt caagggggac tatgtgtgga ctgtatcaga ttcaggaccg   960
ggcccctigt tccgagtgtc tgcccttigg gaggggctcc ccggaaacct ggatgctgct  1020
gtctactcgc ctcgaacaca atggattcac ttctttaagg gagacaaggt gtggcgctac  1080
attaatttca agatgtctcc tggcttcccc aagaagctga atagggtaga acctaacctg  1140
gatgcagctc tctattggcc tctcaaccaa aaggtgttcc tctttaaggg ctccgggtac  1200
tggcagtggg acgagctagc ccgaactgac ttcagcagct accccaaacc aatcaagggt  1260
ttgtttacgg gagtgccaaa ccagccctcg gctgctatga gttggcaaga tggccgagtc  1320
tacttcttca agggcaaagt ctactggcgc ctcaaccagc agcttcgagt agagaaaggc  1380
tatcccagaa atatttccca caactggatg cactgtcgtc cccggactat agacactacc  1440
ccatcaggtg ggaataccac tccctcaggt acgggcataa ccttggatac cactctctca  1500
gccacagaaa ccacgtttga atac                                         1524
```

<210> 30
<211> 508
<212> PRT
<213> Homo sapience

<400> 30

```
Met Asn Cys Gln Gln Leu Trp Leu Gly Phe Leu Leu Pro Met Thr Val
                5                  10                  15
Ser Gly Arg Val Leu Gly Leu Ala Glu Val Ala Pro Val Asp Tyr Leu
            20                  25                  30
Ser Gln Tyr Gly Tyr Leu Gln Lys Pro Leu Glu Gly Ser Asn Asn Phe
        35                  40                  45
Lys Pro Glu Asp Ile Thr Glu Ala Leu Arg Ala Phe Gln Glu Ala Ser
    50                  55                  60
Glu Leu Pro Val Ser Gly Gln Leu Asp Asp Ala Thr Arg Ala Arg Met
65                  70                  75                  80
Arg Gln Pro Arg Cys Gly Leu Glu Asp Pro Phe Asn Gln Lys Thr Leu
                85                  90                  95
Lys Tyr Leu Leu Leu Gly Arg Trp Arg Lys Lys His Leu Thr Phe Arg
            100                 105                 110
Ile Leu Asn Leu Pro Ser Thr Leu Pro Pro His Thr Ala Arg Ala Ala
        115                 120                 125
Leu Arg Gln Ala Phe Gln Asp Trp Ser Asn Val Ala Pro Leu Thr Phe
    130                 135                 140
Gln Glu Val Gln Ala Gly Ala Ala Asp Ile Arg Leu Ser Phe His Gly
145                 150                 155                 160
Arg Gln Ser Ser Tyr Cys Ser Asn Thr Phe Asp Gly Pro Gly Arg Val
                165                 170                 175
Leu Ala His Ala Asp Ile Pro Glu Leu Gly Ser Val His Phe Asp Glu
            180                 185                 190
Asp Glu Phe Trp Thr Glu Gly Thr Tyr Arg Gly Val Asn Leu Arg Ile
        195                 200                 205
Ile Ala Ala His Glu Val Gly His Ala Leu Gly Leu Gly His Ser Arg
    210                 215                 220
```

```
Tyr Ser Gln Ala Leu Met Ala Pro Val Tyr Glu Gly Tyr Arg Pro His
225                 230                 235                 240
Phe Lys Leu His Pro Asp Asp Val Ala Gly Ile Gln Ala Leu Tyr Gly
                245                 250                 255
Lys Lys Ser Pro Val Ile Arg Asp Glu Glu Glu Glu Glu Thr Glu Leu
            260                 265                 270
Pro Thr Val Pro Pro Val Pro Thr Glu Pro Ser Pro Met Pro Asp Pro
        275                 280                 285
Cys Ser Ser Glu Leu Asp Ala Met Met Leu Gly Pro Arg Gly Lys Thr
    290                 295                 300
Tyr Ala Phe Lys Gly Asp Tyr Val Trp Thr Val Ser Asp Ser Gly Pro
305                 310                 315                 320
Gly Pro Leu Phe Arg Val Ser Ala Leu Trp Glu Gly Leu Pro Gly Asn
                325                 330                 335
Leu Asp Ala Ala Val Tyr Ser Pro Arg Thr Gln Trp Ile His Phe Phe
            340                 345                 350
Lys Gly Asp Lys Val Trp Arg Tyr Ile Asn Phe Lys Met Ser Pro Gly
        355                 360                 365
Phe Pro Lys Lys Leu Asn Arg Val Glu Pro Asn Leu Asp Ala Ala Leu
    370                 375                 380
Tyr Trp Pro Leu Asn Gln Lys Val Phe Leu Phe Lys Gly Ser Gly Tyr
385                 390                 395                 400
Trp Gln Trp Asp Glu Leu Ala Arg Thr Asp Phe Ser Ser Tyr Pro Lys
                405                 410                 415
Pro Ile Lys Gly Leu Phe Thr Gly Val Pro Asn Gln Pro Ser Ala Ala
            420                 425                 430
Met Ser Trp Gln Asp Gly Arg Val Tyr Phe Phe Lys Gly Lys Val Tyr
        435                 440                 445
Trp Arg Leu Asn Gln Gln Leu Arg Val Glu Lys Gly Tyr Pro Arg Asn
    450                 455                 460
Ile Ser His Asn Trp Met His Cys Arg Pro Arg Thr Ile Asp Thr Thr
465                 470                 475                 480
Pro Ser Gly Gly Asn Thr Thr Pro Ser Gly Thr Gly Ile Thr Leu Asp
                485                 490                 495
Thr Thr Leu Ser Ala Thr Glu Thr Thr Phe Glu Tyr
            500                 505
```

<210> 31
<211> 942
<212> DNA
<213> Homo sapience

<400> 31
atggggctgg aggcggcgcg cgagctggag tgcgcggcgc tgggcacgct gctgcgggat 60
ccgcgggagg cggaacgcac gctgctgctg gactgccgcc cctcctggc ctctgccgg 120
cgccacgtgc gcgccgcgcg gccagtgcct tggaacgcgc tgctgcggcg ccgcgcgcgc 180
ggccctcctg ccgccgttct cgcctgcctg ctgcccgacc gcgcgctgcg gacgcgcctg 240

gtccgcgggg agctggcgcg ggccgtggtg ctggacgagg gcagtgcctc ggtggcggag 300
ctccggcccg acagccccggc tcatgtgctg ctggccgcgc tgctgcacga gacccgcgcg 360
gggcccactg ccgtgtactt cctgcgagga ggcttcgacg gcttccaggg ctgctgtccc 420
gatctgtgct ctgaggcccc cgcccctgcg ctgccgccaa caggggacaa aaccagccgc 480
tccgactcca gggctcctgt ctacgaccag ggtggccctg tggagatctt gccctacctg 540
ttcctgggca gctgcagtca ctcgtcagac ctgcaggggc tgcaggcctg tggcatcaca 600
gccgtcctca acgtgtccgc cagctgcccc aaccacttig agggccttit ccgctacaag 660
agtatccctg tggaggacaa ccagatggtg gagatcagtg cctggttcca ggaggccata 720
ggcttcattg actgggtgaa gaacagcgga ggccgggtgc tggtgcactg ccaggcgggt 780
atctcgcgct ctgccaccat ctgtctggca tacctcatgc agagtcgccg tgtgcggctg 840
gacgaggcct ttgacttcgt taagcagcgc cgggggggtca tctcccccaa cttcagtttc 900
atggggcagc tgctgcagtt tgagacccag gtgctgtgtc ac 942

<210> 32
<211> 314
<212> PRT
<213> Homo sapience

<400> 32
Met Gly Leu Glu Ala Ala Arg Glu Leu Glu Cys Ala Ala Leu Gly Thr
1 5 10 15
Leu Leu Arg Asp Pro Arg Glu Ala Glu Arg Thr Leu Leu Leu Asp Cys
20 25 30
Arg Pro Phe Leu Ala Phe Cys Arg Arg His Val Arg Ala Ala Arg Pro
35 40 45
Val Pro Trp Asn Ala Leu Leu Arg Arg Arg Ala Arg Gly Pro Pro Ala
50 55 60
Ala Val Leu Ala Cys Leu Leu Pro Asp Arg Ala Leu Arg Thr Arg Leu
65 70 75 80
Val Arg Gly Glu Leu Ala Arg Ala Val Val Leu Asp Glu Gly Ser Ala
85 90 95
Ser Val Ala Glu Leu Arg Pro Asp Ser Pro Ala His Val Leu Leu Ala
100 105 110
Ala Leu Leu His Glu Thr Arg Ala Gly Pro Thr Ala Val Tyr Phe Leu
115 120 125
Arg Gly Gly Phe Asp Gly Phe Gln Gly Cys Cys Pro Asp Leu Cys Ser
130 135 140
Glu Ala Pro Ala Pro Ala Leu Pro Pro Thr Gly Asp Lys Thr Ser Arg
145 150 155 160
Ser Asp Ser Arg Ala Pro Val Tyr Asp Gln Gly Gly Pro Val Glu Ile
165 170 175
Leu Pro Tyr Leu Phe Leu Gly Ser Cys Ser His Ser Ser Asp Leu Gln
180 185 190
Gly Leu Gln Ala Cys Gly Ile Thr Ala Val Leu Asn Val Ser Ala Ser
195 200 205
Cys Pro Asn His Phe Glu Gly Leu Phe Arg Tyr Lys Ser Ile Pro Val
210 215 220

```
Glu Asp Asn Gln Met Val Glu Ile Ser Ala Trp Phe Gln Glu Ala Ile
225                 230                 235                 240
Gly Phe Ile Asp Trp Val Lys Asn Ser Gly Gly Arg Val Leu Val His
                245                 250                 255
Cys Gln Ala Gly Ile Ser Arg Ser Ala Thr Ile Cys Leu Ala Tyr Leu
            260                 265                 270
Met Gln Ser Arg Arg Val Arg Leu Asp Glu Ala Phe Asp Phe Val Lys
        275                 280                 285
Gln Arg Arg Gly Val Ile Ser Pro Asn Phe Ser Phe Met Gly Gln Leu
    290                 295                 300
Leu Gln Phe Glu Thr Gln Val Leu Cys His
305                 310
```

<210> 33
<211> 1152
<212> DNA
<213> Homo sapience

<400> 33

```
atgaaggtca cgtcgctcga cgggcgccag ctgcgcaaga tgctccgcaa ggaggcggcg    60
gcgcgctgcg tggtgctcga ctgccggccc tatctggcct tcgctgcctc gaacgtgcgc   120
ggctcgctca acgtcaacct caactcggtg gtgctgcggc gggccccggg cggcgcggtg   180
tcggcgcgct acgtgctgcc cgacgaggcg gcgcgcgcgc ggctcctgca ggagggcggc   240
ggcggcgtcg cggccgtggt ggtgctggac cagggcagcc gccactggca gaagctgcga   300
gaggagagcg ccgcgcgtgt cgtcctcacc tcgctactcg cttgcctacc cgccggcccg   360
cgggtctact tcctcaaagg gggatatgag actttctact cggaatatcc tgagtgttgc   420
gtggatgtaa aacccatttc acaagagaag attgagagtg agagagccct catcagccag   480
tgtggaaaac cagtggtaaa tgtcagctac aggccagctt atgaccaggg tggcccagtt   540
gaaatcctic ccttcctcta ccttggaagt gcctaccatg catccaagtg cgagttcctc   600
gccaacttgc acatcacagc cctgctgaat gtctcccgac ggacctccga ggcctgcatg   660
acccacctac actacaaatg gatccctgtg gaagacagcc acacggctga cattagctcc   720
cactttcaag aagcaataga cttcattgac tgtgtcaggg aaaagggagg caaggtcctg   780
gtccactgtg aggctgggat ctcccgttca cccaccatct gcatggctta ccttatgaag   840
accaagcagt tccgcctgaa ggaggccttc gattacatca agcagaggag gagcatggtc   900
tcgcccaact ttggcttcat gggccagctc ctgcagtacg aatctgagat cctgccctcc   960
acgcccaacc cccagcctcc ctcctgccaa ggggaggcag caggctcttc actgataggc  1020
catttgcaga cactgagccc tgacatgcag ggtgcctact gcacattccc tgcctcggtg  1080
ctggcaccgg tgcctaccca ctcaacagtc tcagagctca gcagaagccc tgtggcaacg  1140
gccacatcct gc                                                      1152
```

<210> 34
<211> 384
<212> PRT
<213> Homo sapience

<400> 34

```
Met Lys Val Thr Ser Leu Asp Gly Arg Gln Leu Arg Lys Met Leu Arg
```

```
                  5                  10                  15
Lys Glu Ala Ala Ala Arg Cys Val Val Leu Asp Cys Arg Pro Tyr Leu
             20                  25                  30
Ala Phe Ala Ala Ser Asn Val Arg Gly Ser Leu Asn Val Asn Leu Asn
         35                  40                  45
Ser Val Val Leu Arg Arg Ala Arg Gly Gly Ala Val Ser Ala Arg Tyr
     50                  55                  60
Val Leu Pro Asp Glu Ala Ala Arg Ala Arg Leu Leu Gln Glu Gly Gly
 65                  70                  75                  80
Gly Gly Val Ala Ala Val Val Val Leu Asp Gln Gly Ser Arg His Trp
                 85                  90                  95
Gln Lys Leu Arg Glu Glu Ser Ala Ala Arg Val Val Leu Thr Ser Leu
            100                 105                 110
Leu Ala Cys Leu Pro Ala Gly Pro Arg Val Tyr Phe Leu Lys Gly Gly
        115                 120                 125
Tyr Glu Thr Phe Tyr Ser Glu Tyr Pro Glu Cys Cys Val Asp Val Lys
    130                 135                 140
Pro Ile Ser Gln Glu Lys Ile Glu Ser Glu Arg Ala Leu Ile Ser Gln
145                 150                 155                 160
Cys Gly Lys Pro Val Val Asn Val Ser Tyr Arg Pro Ala Tyr Asp Gln
                165                 170                 175
Gly Gly Pro Val Glu Ile Leu Pro Phe Leu Tyr Leu Gly Ser Ala Tyr
            180                 185                 190
His Ala Ser Lys Cys Glu Phe Leu Ala Asn Leu His Ile Thr Ala Leu
        195                 200                 205
Leu Asn Val Ser Arg Arg Thr Ser Glu Ala Cys Met Thr His Leu His
    210                 215                 220
Tyr Lys Trp Ile Pro Val Glu Asp Ser His Thr Ala Asp Ile Ser Ser
225                 230                 235                 240
His Phe Gln Glu Ala Ile Asp Phe Ile Asp Cys Val Arg Glu Lys Gly
                245                 250                 255
Gly Lys Val Leu Val His Cys Glu Ala Gly Ile Ser Arg Ser Pro Thr
            260                 265                 270
Ile Cys Met Ala Tyr Leu Met Lys Thr Lys Gln Phe Arg Leu Lys Glu
        275                 280                 285
Ala Phe Asp Tyr Ile Lys Gln Arg Arg Ser Met Val Ser Pro Asn Phe
    290                 295                 300
Gly Phe Met Gly Gln Leu Leu Gln Tyr Glu Ser Glu Ile Leu Pro Ser
305                 310                 315                 320
Thr Pro Asn Pro Gln Pro Pro Ser Cys Gln Gly Glu Ala Ala Gly Ser
                325                 330                 335
Ser Leu Ile Gly His Leu Gln Thr Leu Ser Pro Asp Met Gln Gly Ala
            340                 345                 350
Tyr Cys Thr Phe Pro Ala Ser Val Leu Ala Pro Val Pro Thr His Ser
        355                 360                 365
Thr Val Ser Glu Leu Ser Arg Ser Pro Val Ala Thr Ala Thr Ser Cys
    370                 375                 380
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<210> 35
<211> 741
<212> DNA
<213> Homo sapience

<400> 35
atgctccaaa actcagcagt gcttctggtg ctggtgatca gtgcttctgc aacccatgag 60
gcggagcaga atgactctgt gagccccagg aaatcccgag tggcggccca aaactcagct 120
gaagtggttc gttgcctcaa cagtgctcta caggtcggct gcggggcttt tgcatgcctg 180
gaaaactcca cctgtgacac agatgggatg tatgacatct gtaaatcctt cttgtacagc 240
gctgctaaat ttgacactca gggaaaagca ttcgtcaaag agagcttaaa atgcatcgcc 300
aacggggtca cctccaaggt cttcctcgcc attcggaggt gctccacttt ccaaaggatg 360
attgctgagg tgcaggaaga gtgctacagc aagctgaatg tgtgcagcat cgccaagcgg 420
aaccctgaag ccatcactga ggtcgtccag ctgcccaatc acttctccaa cagatactat 480
aacagacttg tccgaagcct gctggaatgt gatgaagaca cagtcagcac aatcagagac 540
agcctgatgg agaaaattgg gcctaacatg gccagcctct tccacatcct gcagacagac 600
cactgtgccc aaacacaccc acgagctgac ttcaacagga gacgcaccaa tgagccgcag 660
aagctgaaag tcctcctcag gaacctccga ggtgaggagg actctccctc ccacatcaaa 720
cgcacatccc atgagagtgc a 741

<210> 36
<211> 247
<212> PRT
<213> Homo sapience

<400> 36
Met Leu Gln Asn Ser Ala Val Leu Leu Val Leu Val Ile Ser Ala Ser
5 10 15
Ala Thr His Glu Ala Glu Gln Asn Asp Ser Val Ser Pro Arg Lys Ser
20 25 30
Arg Val Ala Ala Gln Asn Ser Ala Glu Val Val Arg Cys Leu Asn Ser
35 40 45
Ala Leu Gln Val Gly Cys Gly Ala Phe Ala Cys Leu Glu Asn Ser Thr
50 55 60
Cys Asp Thr Asp Gly Met Tyr Asp Ile Cys Lys Ser Phe Leu Tyr Ser
65 70 75 80
Ala Ala Lys Phe Asp Thr Gln Gly Lys Ala Phe Val Lys Glu Ser Leu
85 90 95
Lys Cys Ile Ala Asn Gly Val Thr Ser Lys Val Phe Leu Ala Ile Arg
100 105 110
Arg Cys Ser Thr Phe Gln Arg Met Ile Ala Glu Val Gln Glu Glu Cys
115 120 125
Tyr Ser Lys Leu Asn Val Cys Ser Ile Ala Lys Arg Asn Pro Glu Ala
130 135 140
Ile Thr Glu Val Val Gln Leu Pro Asn His Phe Ser Asn Arg Tyr Tyr
145 150 155 160

```
Asn Arg Leu Val Arg Ser Leu Leu Glu Cys Asp Glu Asp Thr Val Ser
                165                 170                 175
Thr Ile Arg Asp Ser Leu Met Glu Lys Ile Gly Pro Asn Met Ala Ser
            180                 185                 190
Leu Phe His Ile Leu Gln Thr Asp His Cys Ala Gln Thr His Pro Arg
        195                 200                 205
Ala Asp Phe Asn Arg Arg Arg Thr Asn Glu Pro Gln Lys Leu Lys Val
    210                 215                 220
Leu Leu Arg Asn Leu Arg Gly Glu Glu Asp Ser Pro Ser His Ile Lys
225                 230                 235                 240
Arg Thr Ser His Glu Ser Ala
                245
```

<210> 37
<211> 2580
<212> DNA
<213> Homo sapience

<400> 37

```
atggggccct ggggctggaa attgcgctgg accgtcgcct tgctcctcgc cgcggcgggg    60
actgcagtgg gcgacagatg tgaaagaaac gagttccagt gccaagacgg gaaatgcatc   120
tcctacaagt gggtctgcga tggcagcgct gagtgccagg atggctctga tgagtcccag   180
gagacgtgct tgtctgtcac ctgcaaatcc ggggacttca gctgtggggg ccgtgtcaac   240
cgctgcattc ctcagttctg gaggtgcgat ggccaagtgg actgcgacaa cggctcagac   300
gagcaaggct gtcccccaa gacgtgctcc caggacgagt ttcgctgcca cgatgggaag   360
tgcatctctc ggcagttcgt ctgtgactca gaccgggact gcttggacgg ctcagacgag   420
gcctcctgcc cggtgctcac ctgtggtccc gccagcttcc agtgcaacag ctccacctgc   480
atcccccagc tgtgggcctg cgacaacgac cccgactgcg aagatggctc ggatgagtgg   540
ccgcagcgct gtaggggtct ttacgtgttc caaggggaca gtagcccctg ctcggccttc   600
gagttccact gcctaagtgg cgagtgcatc cactccagct ggcgctgtga tggtggcccc   660
gactgcaagg acaaatctga cgaggaaaac tgcgctgtgg ccacctgtcg ccctgacgaa   720
ttccagtgct ctgatggaaa ctgcatccat ggcagccggc agtgtgaccg ggaatatgac   780
tgcaaggaca tgagcgatga agttggctgc gttaatgtga cactctgcga gggacccaac   840
aagttcaagt gtcacagcgg cgaatgcatc accctggaca aagtctgcaa catggctaga   900
gactgccggg actggtcaga tgaacccatc aaagagtgcg ggaccaacga atgcttggac   960
aacaacggcg gctgttccca cgtctgcaat gaccttaaga tcggctacga gtgcctgtgc  1020
cccgacggct tccagctggt ggcccagcga agatgcgaag atatcgatga gtgtcaggat  1080
cccgacacct gcagccagct ctgcgtgaac ctggagggtg gctacaagtg ccagtgtgag  1140
gaaggcttcc agctggaccc ccacacgaag gcctgcaagg ctgtgggctc catcgcctac  1200
ctcttcttca ccaaccggca cgaggtcagg aagatgacgc tggaccggag cgagtacacc  1260
agcctcatcc ccaacctgag gaacgtggtc gctctggaca cggaggtggc cagcaataga  1320
atctactggt ctgacctgtc ccagagaatg atctgcagca cccagcttga cagagcccac  1380
ggcgtctctt cctatgacac cgtcatcagc agggacatcc aggccccga cgggctggct  1440
gtggactgga tccacagcaa catctactgg accgactctg tcctgggcac tgtctctgtt  1500
gcggatacca agggcgtgaa gaggaaaacg ttattcaggg agaacggctc caagccaagg  1560
gccatcgtgg tggatcctgt tcatggcttc atgtactgga ctgactgggg aactcccgcc  1620
aagatcaaga aaggggcct gaatggtgtg gacatctact cgctggtgac tgaaaacatt  1680
```

```
cagtggccca atggcatcac cctagatctc ctcagtggcc gcctctactg ggttgactcc  1740
aaacttcact ccatctcaag catcgatgtc aatgggggca accggaagac catcttggag  1800
gatgaaaaga ggctggccca ccccttctcc ttggccgtct ttgaggacaa agtatttttgg  1860
acagatatca tcaacgaagc catttttcagt gccaaccgcc tcacaggttc cgatgtcaac  1920
ttgttggctg aaaacctact gtccccagag gatatggtcc tcttccacaa cctcacccag  1980
ccaagaggag tgaactggtg tgagaggacc accctgagca atggcggctg ccagtatctg  2040
tgcctccctg ccccgcagat caaccccccac tcgcccaagt ttacctgcgc ctgcccggac  2100
ggcatgctgc tggccaggga catgaggagc tgcctcacag aggctgaggc tgcagtggcc  2160
acccaggaga catccaccgt caggctaaag gtcagcttca cagccgtaag gacacagcac  2220
acaaccaccc ggcctgttcc cgacacctcc cggctgcctg gggccacccc tgggctcacc  2280
acggtggaga tagtgacaat gtctcaccaa gctctgggcg acgttgctgg cagaggaaat  2340
gagaagaagc ccagtagcgt gagggctctg tccattgtcc tccccatcgt gctcctcgtc  2400
ttcctttgcc tgggggtctt cctttatgg aagaactggc ggcttaagaa catcaacagc  2460
atcaacttig acaaccccgt ctatcagaag accacagagg atgaggtcca catttgccac  2520
aaccaggacg gctacagcta cccctcgaga cagatggtca gtctggagga tgacgtggcg  2580
```

<210> 38
<211> 860
<212> PRT
<213> Homo sapience

<400> 38

```
Met Gly Pro Trp Gly Trp Lys Leu Arg Trp Thr Val Ala Leu Leu Leu
                  5                  10                  15
Ala Ala Ala Gly Thr Ala Val Gly Asp Arg Cys Glu Arg Asn Glu Phe
             20                  25                  30
Gln Cys Gln Asp Gly Lys Cys Ile Ser Tyr Lys Trp Val Cys Asp Gly
         35                  40                  45
Ser Ala Glu Cys Gln Asp Gly Ser Asp Glu Ser Gln Glu Thr Cys Leu
     50                  55                  60
Ser Val Thr Cys Lys Ser Gly Asp Phe Ser Cys Gly Gly Arg Val Asn
 65                  70                  75                  80
Arg Cys Ile Pro Gln Phe Trp Arg Cys Asp Gly Gln Val Asp Cys Asp
                 85                  90                  95
Asn Gly Ser Asp Glu Gln Gly Cys Pro Pro Lys Thr Cys Ser Gln Asp
            100                 105                 110
Glu Phe Arg Cys His Asp Gly Lys Cys Ile Ser Arg Gln Phe Val Cys
        115                 120                 125
Asp Ser Asp Arg Asp Cys Leu Asp Gly Ser Asp Glu Ala Ser Cys Pro
    130                 135                 140
Val Leu Thr Cys Gly Pro Ala Ser Phe Gln Cys Asn Ser Ser Thr Cys
145                 150                 155                 160
Ile Pro Gln Leu Trp Ala Cys Asp Asn Asp Pro Asp Cys Glu Asp Gly
                165                 170                 175
Ser Asp Glu Trp Pro Gln Arg Cys Arg Gly Leu Tyr Val Phe Gln Gly
            180                 185                 190
Asp Ser Ser Pro Cys Ser Ala Phe Glu Phe His Cys Leu Ser Gly Glu
```

```
        195                 200                 205
Cys Ile His Ser Ser Trp Arg Cys Asp Gly Gly Pro Asp Cys Lys Asp
    210                 215                 220
Lys Ser Asp Glu Glu Asn Cys Ala Val Ala Thr Cys Arg Pro Asp Glu
225                 230                 235                 240
Phe Gln Cys Ser Asp Gly Asn Cys Ile His Gly Ser Arg Gln Cys Asp
                245                 250                 255
Arg Glu Tyr Asp Cys Lys Asp Met Ser Asp Glu Val Gly Cys Val Asn
            260                 265                 270
Val Thr Leu Cys Glu Gly Pro Asn Lys Phe Lys Cys His Ser Gly Glu
        275                 280                 285
Cys Ile Thr Leu Asp Lys Val Cys Asn Met Ala Arg Asp Cys Arg Asp
    290                 295                 300
Trp Ser Asp Glu Pro Ile Lys Glu Cys Gly Thr Asn Glu Cys Leu Asp
305                 310                 315                 320
Asn Asn Gly Gly Cys Ser His Val Cys Asn Asp Leu Lys Ile Gly Tyr
                325                 330                 335
Glu Cys Leu Cys Pro Asp Gly Phe Gln Leu Val Ala Gln Arg Arg Cys
            340                 345                 350
Glu Asp Ile Asp Glu Cys Gln Asp Pro Asp Thr Cys Ser Gln Leu Cys
        355                 360                 365
Val Asn Leu Glu Gly Gly Tyr Lys Cys Gln Cys Glu Glu Gly Phe Gln
    370                 375                 380
Leu Asp Pro His Thr Lys Ala Cys Lys Ala Val Gly Ser Ile Ala Tyr
385                 390                 395                 400
Leu Phe Phe Thr Asn Arg His Glu Val Arg Lys Met Thr Leu Asp Arg
                405                 410                 415
Ser Glu Tyr Thr Ser Leu Ile Pro Asn Leu Arg Asn Val Val Ala Leu
            420                 425                 430
Asp Thr Glu Val Ala Ser Asn Arg Ile Tyr Trp Ser Asp Leu Ser Gln
        435                 440                 445
Arg Met Ile Cys Ser Thr Gln Leu Asp Arg Ala His Gly Val Ser Ser
    450                 455                 460
Tyr Asp Thr Val Ile Ser Arg Asp Ile Gln Ala Pro Asp Gly Leu Ala
465                 470                 475                 480
Val Asp Trp Ile His Ser Asn Ile Tyr Trp Thr Asp Ser Val Leu Gly
                485                 490                 495
Thr Val Ser Val Ala Asp Thr Lys Gly Val Lys Arg Lys Thr Leu Phe
            500                 505                 510
Arg Glu Asn Gly Ser Lys Pro Arg Ala Ile Val Val Asp Pro Val His
        515                 520                 525
Gly Phe Met Tyr Trp Thr Asp Trp Gly Thr Pro Ala Lys Ile Lys Lys
    530                 535                 540
Gly Gly Leu Asn Gly Val Asp Ile Tyr Ser Leu Val Thr Glu Asn Ile
545                 550                 555                 560
Gln Trp Pro Asn Gly Ile Thr Leu Asp Leu Leu Ser Gly Arg Leu Tyr
                565                 570                 575
```

```
Trp Val Asp Ser Lys Leu His Ser Ile Ser Ser Ile Asp Val Asn Gly
            580                 585                 590
Gly Asn Arg Lys Thr Ile Leu Glu Asp Glu Lys Arg Leu Ala His Pro
        595                 600                 605
Phe Ser Leu Ala Val Phe Glu Asp Lys Val Phe Trp Thr Asp Ile Ile
    610                 615                 620
Asn Glu Ala Ile Phe Ser Ala Asn Arg Leu Thr Gly Ser Asp Val Asn
625                 630                 635                 640
Leu Leu Ala Glu Asn Leu Leu Ser Pro Glu Asp Met Val Leu Phe His
                645                 650                 655
Asn Leu Thr Gln Pro Arg Gly Val Asn Trp Cys Glu Arg Thr Thr Leu
            660                 665                 670
Ser Asn Gly Gly Cys Gln Tyr Leu Cys Leu Pro Ala Pro Gln Ile Asn
        675                 680                 685
Pro His Ser Pro Lys Phe Thr Cys Ala Cys Pro Asp Gly Met Leu Leu
    690                 695                 700
Ala Arg Asp Met Arg Ser Cys Leu Thr Glu Ala Glu Ala Ala Val Ala
705                 710                 715                 720
Thr Gln Glu Thr Ser Thr Val Arg Leu Lys Val Ser Ser Thr Ala Val
                725                 730                 735
Arg Thr Gln His Thr Thr Thr Arg Pro Val Pro Asp Thr Ser Arg Leu
            740                 745                 750
Pro Gly Ala Thr Pro Gly Leu Thr Thr Val Glu Ile Val Thr Met Ser
        755                 760                 765
His Gln Ala Leu Gly Asp Val Ala Gly Arg Gly Asn Glu Lys Lys Pro
    770                 775                 780
Ser Ser Val Arg Ala Leu Ser Ile Val Leu Pro Ile Val Leu Leu Val
785                 790                 795                 800
Phe Leu Cys Leu Gly Val Phe Leu Leu Trp Lys Asn Trp Arg Leu Lys
                805                 810                 815
Asn Ile Asn Ser Ile Asn Phe Asp Asn Pro Val Tyr Gln Lys Thr Thr
            820                 825                 830
Glu Asp Glu Val His Ile Cys His Asn Gln Asp Gly Tyr Ser Tyr Pro
        835                 840                 845
Ser Arg Gln Met Val Ser Leu Glu Asp Asp Val Ala
    850                 855                 860
```

<210> 39
<211> 1320
<212> DNA
<213> Homo sapience

<400> 39
atggaacaac ggggacagaa cgccccggcc gcttcggggg cccggaaaag gcacggccca 60
ggacccaggg aggcgcgggg agccaggcct gggctccggg tccccaagac ccttgtgctc 120
gttgtcgccg cggtcctgct gttggtctca gctgagtctg ctctgatcac ccaacaagac 180
ctagctcccc agcagagagt ggccccacaa caaaagaggt ccagcccctc agagggattg 240

tgtccacctg gacaccatat ctcagaagac ggtagagatt gcatctcctg caaatatgga 300
caggactata gcactcactg gaatgacctc cttttctgct tgcgctgcac caggtgtgat 360
tcaggtgaag tggagctaag tccctgcacc acgaccagaa acacagtgtg tcagtgcgaa 420
gaaggcacct tccgggaaga agatttctcc gagatgtgcc ggaagtgccg cacagggtgt 480
cccagaggga tggtcaaggt cggtgattgt acaccctgga gtgacatcga atgtgtccac 540
aaagaatcag gtacaaagca cagtggggaa gccccagctg tggaggagac ggtgacctcc 600
agcccaggga ctcctgcctc tccctgttct ctctcaggca tcatcatagg agtcacagtt 660
gcagccgtag tcttgattgt ggctgtgttt gtttgcaagt ctttactgtg gaagaaagtc 720
cttccttacc tgaaaggcat ctgctcaggt ggtggtgggg accctgagcg tgtggacaga 780
agctcacaac gacctggggc tgaggacaat gtcctcaatg agatcgtgag tatcttgcag 840
cccacccagg tccctgagca ggaaatggaa gtccaggagc cagcagagcc aacaggtgtc 900
aacatgttgt ccccccgggga gtcagagcat ctgctggaac cggcagaagc tgaaaggtct 960
cagaggagga ggctgctggt tccagcaaat gaaggtgatc ccactgagac tctgagacag 1020
tgcttcgatg actttgcaga cttggtgccc tttgactcct gggagccgct catgaggaag 1080
ttgggcctca tggacaatga gataaaggtg gctaaagctg aggcagcggg ccacagggac 1140
accttgtaca cgatgctgat aaagtgggtc aacaaaaccg ggcgagatgc ctctgtccac 1200
accctgctgg atgccttgga gacgctggga gagagacttg ccaagcagaa gattgaggac 1260
cacttgttga gctctggaaa gttcatgtat ctagaaggta atgcagactc tgccatgtcc 1320

<210> 40
<211> 440
<212> PRT
<213> Homo sapience

<400> 40
Met Glu Gln Arg Gly Gln Asn Ala Pro Ala Ala Ser Gly Ala Arg Lys
1 5 10 15
Arg His Gly Pro Gly Pro Arg Glu Ala Arg Gly Ala Arg Pro Gly Leu
20 25 30
Arg Val Pro Lys Thr Leu Val Leu Val Val Ala Ala Val Leu Leu Leu
35 40 45
Val Ser Ala Glu Ser Ala Leu Ile Thr Gln Gln Asp Leu Ala Pro Gln
50 55 60
Gln Arg Val Ala Pro Gln Gln Lys Arg Ser Ser Pro Ser Glu Gly Leu
65 70 75 80
Cys Pro Pro Gly His His Ile Ser Glu Asp Gly Arg Asp Cys Ile Ser
85 90 95
Cys Lys Tyr Gly Gln Asp Tyr Ser Thr His Trp Asn Asp Leu Leu Phe
100 105 110
Cys Leu Arg Cys Thr Arg Cys Asp Ser Gly Glu Val Glu Leu Ser Pro
115 120 125
Cys Thr Thr Thr Arg Asn Thr Val Cys Gln Cys Glu Glu Gly Thr Phe
130 135 140
Arg Glu Glu Asp Ser Pro Glu Met Cys Arg Lys Cys Arg Thr Gly Cys
145 150 155 160
Pro Arg Gly Met Val Lys Val Gly Asp Cys Thr Pro Trp Ser Asp Ile
165 170 175

```
Glu Cys Val His Lys Glu Ser Gly Thr Lys His Ser Gly Glu Ala Pro
            180                 185                 190
Ala Val Glu Glu Thr Val Thr Ser Ser Pro Gly Thr Pro Ala Ser Pro
        195                 200                 205
Cys Ser Leu Ser Gly Ile Ile Ile Gly Val Thr Val Ala Ala Val Val
    210                 215                 220
Leu Ile Val Ala Val Phe Val Cys Lys Ser Leu Leu Trp Lys Lys Val
225                 230                 235                 240
Leu Pro Tyr Leu Lys Gly Ile Cys Ser Gly Gly Gly Gly Asp Pro Glu
                245                 250                 255
Arg Val Asp Arg Ser Ser Gln Arg Pro Gly Ala Glu Asp Asn Val Leu
            260                 265                 270
Asn Glu Ile Val Ser Ile Leu Gln Pro Thr Gln Val Pro Glu Gln Glu
        275                 280                 285
Met Glu Val Gln Glu Pro Ala Glu Pro Thr Gly Val Asn Met Leu Ser
    290                 295                 300
Pro Gly Glu Ser Glu His Leu Leu Glu Pro Ala Glu Ala Glu Arg Ser
305                 310                 315                 320
Gln Arg Arg Arg Leu Leu Val Pro Ala Asn Glu Gly Asp Pro Thr Glu
                325                 330                 335
Thr Leu Arg Gln Cys Phe Asp Asp Phe Ala Asp Leu Val Pro Phe Asp
            340                 345                 350
Ser Trp Glu Pro Leu Met Arg Lys Leu Gly Leu Met Asp Asn Glu Ile
        355                 360                 365
Lys Val Ala Lys Ala Glu Ala Ala Gly His Arg Asp Thr Leu Tyr Thr
    370                 375                 380
Met Leu Ile Lys Trp Val Asn Lys Thr Gly Arg Asp Ala Ser Val His
385                 390                 395                 400
Thr Leu Leu Asp Ala Leu Glu Thr Leu Gly Glu Arg Leu Ala Lys Gln
                405                 410                 415
Lys Ile Glu Asp His Leu Leu Ser Ser Gly Lys Phe Met Tyr Leu Glu
            420                 425                 430
Gly Asn Ala Asp Ser Ala Met Ser
        435                 440
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<210> 41
<211> 387
<212> DNA
<213> Homo sapience

<400> 41
atggctcggg gctcgctgcg ccggttgctg cggctcctcg tgctggggct ctggctggcg 60
ttgctgcgct ccgtggccgg ggagcaagcg ccaggcaccg ccccctgctc ccgcggcagc 120
tcctggagcg cggacctgga caagtgcatg gactgcgcgt cttgcagggc gcgaccgcac 180
agcgacttct gcctgggctg cgctgcagca cctcctgccc ccttccggct gctttggccc 240
atccttgggg gcgctctgag cctgaccttc gtgctggggc tgctttctgg cttttggtc 300
tggagacgat gccgcaggag agagaagttc accaccccca tagaggagac cggcggagag 360

ggctgcccag ctgtggcgct gatccag 387

<210> 42
<211> 129
<212> PRT
<213> Homo sapience

<400> 42
Met Ala Arg Gly Ser Leu Arg Arg Leu Leu Arg Leu Leu Val Leu Gly
5 10 15
Leu Trp Leu Ala Leu Leu Arg Ser Val Ala Gly Glu Gln Ala Pro Gly
20 25 30
Thr Ala Pro Cys Ser Arg Gly Ser Ser Trp Ser Ala Asp Leu Asp Lys
35 40 45
Cys Met Asp Cys Ala Ser Cys Arg Ala Arg Pro His Ser Asp Phe Cys
50 55 60
Leu Gly Cys Ala Ala Ala Pro Pro Ala Pro Phe Arg Leu Leu Trp Pro
65 70 75 80
Ile Leu Gly Gly Ala Leu Ser Leu Thr Phe Val Leu Gly Leu Leu Ser
85 90 95
Gly Phe Leu Val Trp Arg Arg Cys Arg Arg Arg Glu Lys Phe Thr Thr
100 105 110
Pro Ile Glu Glu Thr Gly Gly Glu Gly Cys Pro Ala Val Ala Leu Ile
115 120 125
Gln

<210> 43
<211> 1401
<212> DNA
<213> Homo sapience

<400> 43
atggagtaca tgagcactgg aagtgacaat aaagaagaga ttgatttatt aattaaacat 60
ttaaatgtgt ctgatgtaat agacattatg gaaaatcttt atgcaagtga agagccagca 120
gtttatgaac ccagtctaat gaccatgtgt caagacagta atcaaaacga tgagcgttct 180
aagtctctgc tgcttagtgg ccaagaggta ccatggttgt catcagtcag atatggaact 240
gtggaggatt tgcttgcttt tgcaaaccat atatccaaca ctgcaaagca tttttatgga 300
caacgaccac aggaatctgg aattttatta aacatggtca tcactcccca aaatggacgt 360
taccaaatag attccgatgt tctcctgatc ccctggaagc tgacttacag gaatattggt 420
tctgatttta ttcctcgggg cgcctttgga aaggtatact tggcacaaga tataaagacg 480
aagaaaagaa tggcgtgtaa actgatccca gtagatcaat ttaagccatc tgatgtggaa 540
atccaggctt gcttccggca cgagaacatc gcagagctgt atggcgcagt cctgtggggt 600
gaaactgtcc atctctttat ggaagcaggc gagggagggt ctgttctgga gaaactggag 660
agctgtggac caatgagaga atttgaaatt atttgggtga caaagcatgt tctcaaggga 720
cttgatttte tacactcaaa gaaagtgatc catcatgata ttaaacctag caacattgtt 780
ttcatgtcca caaaagctgt tttggtggat tttggcctaa gtgttcaaat gaccgaagat 840
gtctatttte ctaaggacct ccgaggaaca gagatttaca tgagcccaga ggtcatcctg 900

tgcaggggcc attcaaccaa agcagacatc tacagcctgg gggccacgct catccacatg 960
cagacgggca ccccaccctg ggtgaagcgc taccctcgct cagcctatcc ctcctacctg 1020
tacataatcc acaagcaagc acctccactg gaagacattg cagatgactg cagtccaggg 1080
atgagagagc tgatagaagc ttccctggag agaaacccca atcaccgccc aagagccgca 1140
gacctactaa aacatgaggc cctgaacccg cccagagagg atcagccacg ctgtcagagt 1200
ctggactctg ccctcttgga gcgcaagagg ctgctgagta ggaaggagct ggaacttcct 1260
gagaacattg ctgattcttc gtgcacagga agcaccgagg aatctgagat gctcaagagg 1320
caacgctctc tctacatcga cctcggcgct ctggctggct acttcaatct tgttcgggga 1380
ccaccaacgc ttgaatatgg c 1401

<210> 44
<211> 467
<212> PRT
<213> Homo sapience

<400> 44
Met Glu Tyr Met Ser Thr Gly Ser Asp Asn Lys Glu Glu Ile Asp Leu
5 10 15
Leu Ile Lys His Leu Asn Val Ser Asp Val Ile Asp Ile Met Glu Asn
20 25 30
Leu Tyr Ala Ser Glu Glu Pro Ala Val Tyr Glu Pro Ser Leu Met Thr
35 40 45
Met Cys Gln Asp Ser Asn Gln Asn Asp Glu Arg Ser Lys Ser Leu Leu
50 55 60
Leu Ser Gly Gln Glu Val Pro Trp Leu Ser Ser Val Arg Tyr Gly Thr
65 70 75 80
Val Glu Asp Leu Leu Ala Phe Ala Asn His Ile Ser Asn Thr Ala Lys
85 90 95
His Phe Tyr Gly Gln Arg Pro Gln Glu Ser Gly Ile Leu Leu Asn Met
100 105 110
Val Ile Thr Pro Gln Asn Gly Arg Tyr Gln Ile Asp Ser Asp Val Leu
115 120 125
Leu Ile Pro Trp Lys Leu Thr Tyr Arg Asn Ile Gly Ser Asp Phe Ile
130 135 140
Pro Arg Gly Ala Phe Gly Lys Val Tyr Leu Ala Gln Asp Ile Lys Thr
145 150 155 160
Lys Lys Arg Met Ala Cys Lys Leu Ile Pro Val Asp Gln Phe Lys Pro
165 170 175
Ser Asp Val Glu Ile Gln Ala Cys Phe Arg His Glu Asn Ile Ala Glu
180 185 190
Leu Tyr Gly Ala Val Leu Trp Gly Glu Thr Val His Leu Phe Met Glu
195 200 205
Ala Gly Glu Gly Gly Ser Val Leu Glu Lys Leu Glu Ser Cys Gly Pro
210 215 220
Met Arg Glu Phe Glu Ile Ile Trp Val Thr Lys His Val Leu Lys Gly
225 230 235 240
Leu Asp Phe Leu His Ser Lys Lys Val Ile His His Asp Ile Lys Pro

```
                245                 250                 255
Ser Asn Ile Val Phe Met Ser Thr Lys Ala Val Leu Val Asp Phe Gly
            260                 265                 270
Leu Ser Val Gln Met Thr Glu Asp Val Tyr Phe Pro Lys Asp Leu Arg
        275                 280                 285
Gly Thr Glu Ile Tyr Met Ser Pro Glu Val Ile Leu Cys Arg Gly His
    290                 295                 300
Ser Thr Lys Ala Asp Ile Tyr Ser Leu Gly Ala Thr Leu Ile His Met
305                 310                 315                 320
Gln Thr Gly Thr Pro Pro Trp Val Lys Arg Tyr Pro Arg Ser Ala Tyr
                325                 330                 335
Pro Ser Tyr Leu Tyr Ile Ile His Lys Gln Ala Pro Pro Leu Glu Asp
            340                 345                 350
Ile Ala Asp Asp Cys Ser Pro Gly Met Arg Glu Leu Ile Glu Ala Ser
        355                 360                 365
Leu Glu Arg Asn Pro Asn His Arg Pro Arg Ala Ala Asp Leu Leu Lys
    370                 375                 380
His Glu Ala Leu Asn Pro Pro Arg Glu Asp Gln Pro Arg Cys Gln Ser
385                 390                 395                 400
Leu Asp Ser Ala Leu Leu Glu Arg Lys Arg Leu Leu Ser Arg Lys Glu
                405                 410                 415
Leu Glu Leu Pro Glu Asn Ile Ala Asp Ser Ser Cys Thr Gly Ser Thr
            420                 425                 430
Glu Glu Ser Glu Met Leu Lys Arg Gln Arg Ser Leu Tyr Ile Asp Leu
        435                 440                 445
Gly Ala Leu Ala Gly Tyr Phe Asn Leu Val Arg Gly Pro Pro Thr Leu
    450                 455                 460
Glu Tyr Gly
465
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<210> 45
<211> 1629
<212> DNA
<213> Homo sapience

<400> 45

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atggccgcgg ccaaggccga gatgcagctg atgtccccgc tgcagatctc tgacccgttc    60
ggatccttic ctcactcgcc caccatggac aactacccta agctggagga gatgatgctg   120
ctgagcaacg gggctcccca gttcctcggc gccgccgggg ccccagaggg cagcggcagc   180
aacagcagca gcagcagcag cgggggcggt ggaggcggcg ggggcggcag caacagcagc   240
agcagcagca gcaccttcaa ccctcaggcg gacacgggcg agcagcccta cgagcacctg   300
accgcagagt cttttcctga catctctctg aacaacgaga aggtgctggt ggagaccagt   360
taccccagcc aaaccactcg actgcccccc atcacctata ctggccgctt ttccctggag   420
cctgcaccca acagtggcaa caccttgtgg cccgagcccc tcttcagctt ggtcagtggc   480
ctagtgagca tgaccaaccc accggcctcc tcgtcctcag caccatctcc agcggcctcc   540
tccgcctccg cctcccagag cccacccctg agctgcgcag tgccatccaa cgacagcagt   600
cccatttact cagcggcacc caccttcccc acgccgaaca ctgacatttt ccctgagcca   660
```

caaagccagg ccttcccggg ctcggcaggg acagcgctcc agtacccgcc tcctgcctac 720
cctgccgcca agggtggctt ccaggttccc atgatccccg actacctgtt tccacagcag 780
cagggggatc tgggcctggg caccccagac cagaagccct tccagggcct ggagagccgc 840
acccagcagc cttcgctaac ccctctgtct actattaagg cctttgccac tcagtcgggc 900
tcccaggacc tgaaggccct caataccagc taccagtccc agctcatcaa acccagccgc 960
atgcgcaagt accccaaccg gcccagcaag acgccccccc acgaacgccc ttacgcttgc 1020
ccagtggagt cctgtgatcg ccgcttctcc cgctccgacg agctcacccg ccacatccgc 1080
atccacacag gccagaagcc cttccagtgc cgcatctgca tgcgcaactt cagccgcagc 1140
gaccacctca ccacccacat ccgcacccac acaggcgaaa agcccttcgc ctgcgacatc 1200
tgtggaagaa agtttgccag gagcgatgaa cgcaagaggc ataccaagat ccacttgcgg 1260
cagaaggaca agaaagcaga caaaagtgtt gtggcctctt cggccacctc ctctctctct 1320
tcctacccgt ccccggttgc tacctcttac ccgtcccccgg ttactacctc ttatccatcc 1380
ccggccacca cctcataccc atcccctgtg cccacctcct tctcctctcc cggctcctcg 1440
acctacccat cccctgtgca cagtggcttc ccctcccccgt cggtggccac cacgtactcc 1500
tctgttcccc ctgctttccc ggcccaggtc agcagcttcc cttcctcagc tgtcaccaac 1560
tccttcagcg cctccacagg gctttcggac atgacagcaa cctttctctc caggacaatt 1620
gaaatttgc 1629

<210> 46
<211> 543
<212> PRT
<213> Homo sapience

<400> 46
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
5 10 15
Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30
Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45
Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60
Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65 70 75 80
Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
85 90 95
Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
100 105 110
Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
115 120 125
Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
130 135 140
Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145 150 155 160
Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
165 170 175
Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys

```
            180                 185                 190
Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205
Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220
Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240
Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255
Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270
Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285
Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu
    290                 295                 300
Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg
305                 310                 315                 320
Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335
Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350
Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365
Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr
    370                 375                 380
Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400
Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr Lys
                405                 410                 415
Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala
            420                 425                 430
Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr
        435                 440                 445
Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr
    450                 455                 460
Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser
465                 470                 475                 480
Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala
                485                 490                 495
Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser
            500                 505                 510
Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu
        515                 520                 525
Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
    530                 535                 540
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<210> 47

<211> 1161
<212> DNA
<213> Homo sapience

<400> 47
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cctgacaatc tgtaccccga ggagatcccc agcgcgctca acctcttctc cggcagcagc 120
gactcggtag tccattacaa tcagatggct acagagaatg taatggacat cggtctgacc 180
aacgagaagc ccaacccgga actctcttac tccggctcct tccagccagc ccccggcaac 240
aagaccgtga cctacttggg aaagttcgcc ttcgactccc cttccaactg gtgccaggac 300
aacatcatta gcctcatgag cgccggcatc ttgggggtgc ccccggcttc aggggcgctc 360
agcacgcaga cgtccacggc cagcatggtg cagccaccgc agggtgacgt ggaggccatg 420
tatcccgcgc taccccccta ctccaactgc ggcgacctct actcagagcc cgtgtctttc 480
cacgaccccc agggcaatcc cgggctcgcc tatttccccc aggattacca atcggccaag 540
ccggcgttgg acagcaatct cttccccatg attcctgact acaacctcta ccaccacccc 600
aacgacatgg gctccattcc ggagcacaag ccctttccagg gcatggaccc catccgggtc 660
aacccgcccc ctattacccc tctggagacc atcaaggcat tcaaagacaa gcagatccac 720
ccgggctttg gcagcctgcc ccagccgccg ctcaccctca agcccatccg gccccgcaag 780
taccccaacc ggcctagcaa gacaccgctc cacgaacggc cccacgcgtg cccggccgag 840
ggctgcgacc gccgtttcag ccgttcggac gagctgaccc ggcacctgcg catccacacg 900
ggccacaagc cctttccagtg ccggatctgc atgcggagct tcagccgcag cgaccacctc 960
accactcaca tccgcactca tacgggcgag aagcccttg cctgcgagtt ctgcgggcgc 1020
aagtttgcgc gcagcgacga gcgcaagcgc cacgccaaga tccacctcaa gcaaaaggag 1080
aagaaggcgg agaagggcgg tgcaccctct gcatcctcgg cgccccccgt gtcgctggcc 1140
cccgtggtca ccacctgcgc c 1161

<210> 48
<211> 387
<212> PRT
<213> Homo sapience

<400> 48
Met Thr Gly Lys Leu Ala Glu Lys Leu Pro Val Thr Met Ser Ser Leu
1 5 10 15
Leu Asn Gln Leu Pro Asp Asn Leu Tyr Pro Glu Glu Ile Pro Ser Ala
20 25 30
Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln
35 40 45
Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro
50 55 60
Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn
65 70 75 80
Lys Thr Val Thr Tyr Leu Gly Lys Phe Ala Phe Asp Ser Pro Ser Asn
85 90 95
Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly
100 105 110
Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser

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        115                 120                 125
Met Val Gln Pro Pro Gln Gly Asp Val Glu Ala Met Tyr Pro Ala Leu
    130                 135                 140
Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe
145                 150                 155                 160
His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr
                165                 170                 175
Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro
            180                 185                 190
Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu
        195                 200                 205
His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro
    210                 215                 220
Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His
225                 230                 235                 240
Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile
                245                 250                 255
Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu
            260                 265                 270
Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg
        275                 280                 285
Ser Asp Glu Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys Pro
    290                 295                 300
Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Ser Asp His Leu
305                 310                 315                 320
Thr Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu
                325                 330                 335
Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Ala
            340                 345                 350
Lys Ile His Leu Lys Gln Lys Glu Lys Lys Ala Glu Lys Gly Gly Ala
        355                 360                 365
Pro Ser Ala Ser Ser Ala Pro Pro Val Ser Leu Ala Pro Val Val Thr
    370                 375                 380
Thr Cys Ala
385
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<210> 49
<211> 2850
<212> DNA
<213> Homo sapience

<400> 49

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ctgctcgccg cggcgctact ggccgtgtcg gacgcactcg ggcgcccctc cgaggaggac   120
gaggagctag tggtgccgga gctggagcgc gccccgggac acgggaccac gcgcctccgc   180
ctgcacgcct ttgaccagca gctggatctg gagctgcggc ccgacagcag cttttggcg    240
cccggcttca cgctccagaa cgtggggcgc aaatccgggt ccgagacgcc gcttccggaa   300
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accgacctgg cgcactgctt ctactccggc accgtgaatg gcgatcccag ctcggctgcc 360
gccctcagcc tctgcgaggg cgtgcgcggc gccttctacc tgctggggga ggcgtatttc 420
atccagccgc tgcccgccgc cagcgagcgc ctcgccaccg ccgccccagg ggagaagccg 480
ccggcaccac tacagttcca cctcctgcgg cggaatcggc agggcgacgt cggcggcacg 540
tgcggggtcg tggacgacga gccccggccg actgggaaag cggagaccga agacgaggac 600
gaagggactg agggcgagga cgaaggggct cagtggtcgc cgcaggaccc ggcactgcaa 660
ggcgtaggac agcccacagg aactggaagc ataagaaaga agcgatttgt gtccagtcac 720
cgctatgtgg aaaccatgct tgtggcagac cagtcgatgg cagaatttca cggcagtggt 780
ctaaagcatt accttctcac gttgttttcg gtggcagcca gattgtacaa acaccccagc 840
attcgtaatt cagttagcct ggtggtggtg aagatcttgg tcatccacga tgaacagaag 900
gggccggaag tgacctccaa tgctgccctc actctgcgga acttttgcaa ctggcagaag 960
cagcacaacc cacccagtga ccgggatgca gagcactatg acacagcaat tcttttcacc 1020
agacaggact tgtgtgggtc ccagacatgt gatactcttg ggatggctga tgttggaact 1080
gtgtgtgatc cgagcagaag ctgctccgtc atagaagatg atggtttaca agctgccttc 1140
accacagccc atgaattagg ccacgtgttt aacatgccac atgatgatgc aaagcagtgt 1200
gccagcctta atggtgtgaa ccaggattcc cacatgatgg cgtcaatgct ttccaacctg 1260
gaccacagcc agccttggtc tccttgcagt gcctacatga ttacatcatt tctggataat 1320
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cctggcacct cgtacgatgc caaccggcag tgccagttta catttgggga ggactccaaa 1440
cactgccccg atgcagccag cacatgtagc accttgtggt gtaccggcac ctctggtggg 1500
gtgctggtgt gtcaaaccaa acacttcccg tgggcggatg gcaccagctg tggagaaggg 1560
aaatggtgta tcaacggcaa gtgtgtgaac aaaaccgaca gaaagcattt tgatacgcct 1620
tttcatggaa gctggggaat gtgggggcct tggggagact gttcgagaac gtgcggtgga 1680
ggagtccagt acacgatgag ggaatgtgac aacccagtcc caaagaatgg agggaagtac 1740
tgtgaaggca aacgagtgcg ctacagatcc tgtaaccttg aggactgtcc agacaataat 1800
ggaaaaacct ttagagagga acaatgtgaa gcacacaacg agttttcaaa agcttccttt 1860
gggagtgggc ctgcggtgga atggattccc aagtacgctg gcgtctcacc aaaggacagg 1920
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<210> 50
<211> 950
<212> PRT

<213> Homo sapience

<400> 50

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Leu Gly Arg Pro Ser Glu Glu Asp Glu Glu Leu Val Val Pro Glu Leu
        35                  40                  45
Glu Arg Ala Pro Gly His Gly Thr Thr Arg Leu Arg Leu His Ala Phe
    50                  55                  60
Asp Gln Gln Leu Asp Leu Glu Leu Arg Pro Asp Ser Ser Phe Leu Ala
65                  70                  75                  80
Pro Gly Phe Thr Leu Gln Asn Val Gly Arg Lys Ser Gly Ser Glu Thr
                85                  90                  95
Pro Leu Pro Glu Thr Asp Leu Ala His Cys Phe Tyr Ser Gly Thr Val
            100                 105                 110
Asn Gly Asp Pro Ser Ser Ala Ala Ala Leu Ser Leu Cys Glu Gly Val
        115                 120                 125
Arg Gly Ala Phe Tyr Leu Leu Gly Glu Ala Tyr Phe Ile Gln Pro Leu
    130                 135                 140
Pro Ala Ala Ser Glu Arg Leu Ala Thr Ala Ala Pro Gly Glu Lys Pro
145                 150                 155                 160
Pro Ala Pro Leu Gln Phe His Leu Leu Arg Arg Asn Arg Gln Gly Asp
                165                 170                 175
Val Gly Gly Thr Cys Gly Val Val Asp Asp Glu Pro Arg Pro Thr Gly
            180                 185                 190
Lys Ala Glu Thr Glu Asp Glu Asp Glu Gly Thr Glu Gly Glu Asp Glu
        195                 200                 205
Gly Ala Gln Trp Ser Pro Gln Asp Pro Ala Leu Gln Gly Val Gly Gln
    210                 215                 220
Pro Thr Gly Thr Gly Ser Ile Arg Lys Lys Arg Phe Val Ser Ser His
225                 230                 235                 240
Arg Tyr Val Glu Thr Met Leu Val Ala Asp Gln Ser Met Ala Glu Phe
                245                 250                 255
His Gly Ser Gly Leu Lys His Tyr Leu Leu Thr Leu Phe Ser Val Ala
            260                 265                 270
Ala Arg Leu Tyr Lys His Pro Ser Ile Arg Asn Ser Val Ser Leu Val
        275                 280                 285
Val Val Lys Ile Leu Val Ile His Asp Glu Gln Lys Gly Pro Glu Val
    290                 295                 300
Thr Ser Asn Ala Ala Leu Thr Leu Arg Asn Phe Cys Asn Trp Gln Lys
305                 310                 315                 320
Gln His Asn Pro Pro Ser Asp Arg Asp Ala Glu His Tyr Asp Thr Ala
                325                 330                 335
Ile Leu Phe Thr Arg Gln Asp Leu Cys Gly Ser Gln Thr Cys Asp Thr
            340                 345                 350
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Leu Gly Met Ala Asp Val Gly Thr Val Cys Asp Pro Ser Arg Ser Cys
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Ser Val Ile Glu Asp Asp Gly Leu Gln Ala Ala Phe Thr Thr Ala His
370 375 380
Glu Leu Gly His Val Phe Asn Met Pro His Asp Asp Ala Lys Gln Cys
385 390 395 400
Ala Ser Leu Asn Gly Val Asn Gln Asp Ser His Met Met Ala Ser Met
405 410 415
Leu Ser Asn Leu Asp His Ser Gln Pro Trp Ser Pro Cys Ser Ala Tyr
420 425 430
Met Ile Thr Ser Phe Leu Asp Asn Gly His Gly Glu Cys Leu Met Asp
435 440 445
Lys Pro Gln Asn Pro Ile Gln Leu Pro Gly Asp Leu Pro Gly Thr Ser
450 455 460
Tyr Asp Ala Asn Arg Gln Cys Gln Phe Thr Phe Gly Glu Asp Ser Lys
465 470 475 480
His Cys Pro Asp Ala Ala Ser Thr Cys Ser Thr Leu Trp Cys Thr Gly
485 490 495
Thr Ser Gly Gly Val Leu Val Cys Gln Thr Lys His Phe Pro Trp Ala
500 505 510
Asp Gly Thr Ser Cys Gly Glu Gly Lys Trp Cys Ile Asn Gly Lys Cys
515 520 525
Val Asn Lys Thr Asp Arg Lys His Phe Asp Thr Pro Phe His Gly Ser
530 535 540
Trp Gly Met Trp Gly Pro Trp Gly Asp Cys Ser Arg Thr Cys Gly Gly
545 550 555 560
Gly Val Gln Tyr Thr Met Arg Glu Cys Asp Asn Pro Val Pro Lys Asn
565 570 575
Gly Gly Lys Tyr Cys Glu Gly Lys Arg Val Arg Tyr Arg Ser Cys Asn
580 585 590
Leu Glu Asp Cys Pro Asp Asn Asn Gly Lys Thr Phe Arg Glu Glu Gln
595 600 605
Cys Glu Ala His Asn Glu Phe Ser Lys Ala Ser Phe Gly Ser Gly Pro
610 615 620
Ala Val Glu Trp Ile Pro Lys Tyr Ala Gly Val Ser Pro Lys Asp Arg
625 630 635 640
Cys Lys Leu Ile Cys Gln Ala Lys Gly Ile Gly Tyr Phe Phe Val Leu
645 650 655
Gln Pro Lys Val Val Asp Gly Thr Pro Cys Ser Pro Asp Ser Thr Ser
660 665 670
Val Cys Val Gln Gly Gln Cys Val Lys Ala Gly Cys Asp Arg Ile Ile
675 680 685
Asp Ser Lys Lys Lys Phe Asp Lys Cys Gly Val Cys Gly Gly Asn Gly
690 695 700
Ser Thr Cys Lys Lys Ile Ser Gly Ser Val Thr Ser Ala Lys Pro Gly
705 710 715 720
Tyr His Asp Ile Ile Thr Ile Pro Thr Gly Ala Thr Asn Ile Glu Val

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Lys Gln Arg Asn Gln Arg Gly Ser Arg Asn Asn Gly Ser Phe Leu Ala
            740                 745                 750
Ile Lys Ala Ala Asp Gly Thr Tyr Ile Leu Asn Gly Asp Tyr Thr Leu
        755                 760                 765
Ser Thr Leu Glu Gln Asp Ile Met Tyr Lys Gly Val Val Leu Arg Tyr
    770                 775                 780
Ser Gly Ser Ser Ala Ala Leu Glu Arg Ile Arg Ser Phe Ser Pro Leu
785                 790                 795                 800
Lys Glu Pro Leu Thr Ile Gln Val Leu Thr Val Gly Asn Ala Leu Arg
                805                 810                 815
Pro Lys Ile Lys Tyr Thr Tyr Phe Val Lys Lys Lys Lys Glu Ser Phe
            820                 825                 830
Asn Ala Ile Pro Thr Phe Ser Ala Trp Val Ile Glu Glu Trp Gly Glu
        835                 840                 845
Cys Ser Lys Ser Cys Glu Leu Gly Trp Gln Arg Arg Leu Val Glu Cys
    850                 855                 860
Arg Asp Ile Asn Gly Gln Pro Ala Ser Glu Cys Ala Lys Glu Val Lys
865                 870                 875                 880
Pro Ala Ser Thr Arg Pro Cys Ala Asp His Pro Cys Pro Gln Trp Gln
                885                 890                 895
Leu Gly Glu Trp Ser Ser Cys Ser Lys Thr Cys Gly Lys Gly Tyr Lys
            900                 905                 910
Lys Arg Ser Leu Lys Cys Leu Ser His Asp Gly Gly Val Leu Ser His
        915                 920                 925
Glu Ser Cys Asp Pro Leu Lys Lys Pro Lys His Phe Ile Asp Phe Cys
    930                 935                 940
Thr Met Ala Glu Cys Ser
945                 950
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<210> 51
<211> 705
<212> DNA
<213> Homo sapience

<400> 51

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gactacggac cctgccgggc cctacttctc cgttactact acgacaggta cacgcagagc   180
tgccgccagt tcctgtacgg gggctgcgag ggcaacgcca acaatttcta cacctgggag   240
gcttgcgacg atgcttgctg gaggatagaa aaagttccca aagtttgccg gctgcaagtg   300
agtgtggacg accagtgtga ggggtccaca gaaaagtatt tctttaatct aagttccatg   360
acatgtgaaa aatttttttc cggtgggtgt caccggaacc ggattgagaa caggtttcca   420
gatgaagcta cttgtatggg cttctgcgca ccaaagaaaa ttccatcatt ttgctacagt   480
ccaaaagatg agggactgtg ctctgccaat gtgactcgct attattttaa tccaagatac   540
agaacctgtg atgctttcac ctatactggc tgtggaggga atgacaataa ctttgttagc   600
agggaggatt gcaaacgtgc atgtgcaaaa gctttgaaaa agaaaaagaa gatgccaaag   660
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ctlcgctltg ccaglagaal ccggaaaatt cggaagaagc aattt 705

<210> 52
<211> 235
<212> PRT
<213> Homo sapience

<400> 52

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Thr Glu Ala Ala Leu Gly Asp Ala Ala Gln Glu Pro Thr Gly Asn Asn
             20                  25                  30
Ala Glu Ile Cys Leu Leu Pro Leu Asp Tyr Gly Pro Cys Arg Ala Leu
         35                  40                  45
Leu Leu Arg Tyr Tyr Tyr Asp Arg Tyr Thr Gln Ser Cys Arg Gln Phe
     50                  55                  60
Leu Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Tyr Thr Trp Glu
 65                  70                  75                  80
Ala Cys Asp Asp Ala Cys Trp Arg Ile Glu Lys Val Pro Lys Val Cys
                 85                  90                  95
Arg Leu Gln Val Ser Val Asp Asp Gln Cys Glu Gly Ser Thr Glu Lys
            100                 105                 110
Tyr Phe Phe Asn Leu Ser Ser Met Thr Cys Glu Lys Phe Phe Ser Gly
        115                 120                 125
Gly Cys His Arg Asn Arg Ile Glu Asn Arg Phe Pro Asp Glu Ala Thr
    130                 135                 140
Cys Met Gly Phe Cys Ala Pro Lys Lys Ile Pro Ser Phe Cys Tyr Ser
145                 150                 155                 160
Pro Lys Asp Glu Gly Leu Cys Ser Ala Asn Val Thr Arg Tyr Tyr Phe
                165                 170                 175
Asn Pro Arg Tyr Arg Thr Cys Asp Ala Phe Thr Tyr Thr Gly Cys Gly
            180                 185                 190
Gly Asn Asp Asn Asn Phe Val Ser Arg Glu Asp Cys Lys Arg Ala Cys
        195                 200                 205
Ala Lys Ala Leu Lys Lys Lys Lys Lys Met Pro Lys Leu Arg Phe Ala
    210                 215                 220
Ser Arg Ile Arg Lys Ile Arg Lys Lys Gln Phe
225                 230                 235
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<210> 53
<211> 756
<212> DNA
<213> Homo sapience

<400> 53

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ccgaacatcc tcgggctcag gaacaacatc tactgcatgg cccagctgct ggacaactca 480
gacacggctg agcccacgaa ggctggccgg ggggcctctc agccgcccac ccccacccct 540
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ttcatgcact cagtgggggcg ggtcttcagc aagtgggggg agagcccgaa ccggagccgg 660
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ggcaagagac tcatgaccag gggacagctg ccccgg 756

<210> 54
<211> 252
<212> PRT
<213> Homo sapience

<400> 54
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Leu Leu Phe Pro Ser Met Ala Ser Met Ala Ala Ile Gly Ser Cys Ser
20 25 30
Lys Glu Tyr Arg Val Leu Leu Gly Gln Leu Gln Lys Gln Thr Asp Leu
35 40 45
Met Gln Asp Thr Ser Arg Leu Leu Asp Pro Tyr Ile Arg Ile Gln Gly
50 55 60
Leu Asp Val Pro Lys Leu Arg Glu His Cys Arg Glu Arg Pro Gly Ala
65 70 75 80
Phe Pro Ser Glu Glu Thr Leu Arg Gly Leu Gly Arg Arg Gly Phe Leu
85 90 95
Gln Thr Leu Asn Ala Thr Leu Gly Cys Val Leu His Arg Leu Ala Asp
100 105 110
Leu Glu Gln Arg Leu Pro Lys Ala Gln Asp Leu Glu Arg Ser Gly Leu
115 120 125
Asn Ile Glu Asp Leu Glu Lys Leu Gln Met Ala Arg Pro Asn Ile Leu
130 135 140
Gly Leu Arg Asn Asn Ile Tyr Cys Met Ala Gln Leu Leu Asp Asn Ser
145 150 155 160
Asp Thr Ala Glu Pro Thr Lys Ala Gly Arg Gly Ala Ser Gln Pro Pro
165 170 175
Thr Pro Thr Pro Ala Ser Asp Ala Phe Gln Arg Lys Leu Glu Gly Cys
180 185 190
Arg Phe Leu His Gly Tyr His Arg Phe Met His Ser Val Gly Arg Val
195 200 205
Phe Ser Lys Trp Gly Glu Ser Pro Asn Arg Ser Arg Arg His Ser Pro
210 215 220
His Gln Ala Leu Arg Lys Gly Val Arg Arg Thr Arg Pro Ser Arg Lys

225 230 235 240
Gly Lys Arg Leu Met Thr Arg Gly Gln Leu Pro Arg
245 250

<210> 55
<211> 6603
<212> DNA
<213> Homo sapience

<400> 55
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ctgccagaag agaaccagcc agtggtgttt aaccacgttt acaacatcaa gctgccagtg 180
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aataaccaca gtcagggcgt taactggttc cactggaagg gccacgaaca ctcaatccag 6540
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gca 6603

<210> 56
<211> 2201
<212> PRT
<213> Homo sapience

<400> 56
Met Gly Ala Met Thr Gln Leu Leu Ala Gly Val Phe Leu Ala Phe Leu
5 10 15
Ala Leu Ala Thr Glu Gly Gly Val Leu Lys Lys Val Ile Arg His Lys
20 25 30
Arg Gln Ser Gly Val Asn Ala Thr Leu Pro Glu Glu Asn Gln Pro Val
35 40 45
Val Phe Asn His Val Tyr Asn Ile Lys Leu Pro Val Gly Ser Gln Cys
50 55 60
Ser Val Asp Leu Glu Ser Ala Ser Gly Glu Lys Asp Leu Ala Pro Pro
65 70 75 80
Ser Glu Pro Ser Glu Ser Phe Gln Glu His Thr Val Asp Gly Glu Asn
85 90 95
Gln Ile Val Phe Thr His Arg Ile Asn Ile Pro Arg Arg Ala Cys Gly

```
                100                 105                 110
Cys Ala Ala Ala Pro Asp Val Lys Glu Leu Leu Ser Arg Leu Glu Glu
            115                 120                 125
Leu Glu Asn Leu Val Ser Ser Leu Arg Glu Gln Cys Thr Ala Gly Ala
    130                 135                 140
Gly Cys Cys Leu Gln Pro Ala Thr Gly Arg Leu Asp Thr Arg Pro Phe
145                 150                 155                 160
Cys Ser Gly Arg Gly Asn Phe Ser Thr Glu Gly Cys Gly Cys Val Cys
                165                 170                 175
Glu Pro Gly Trp Lys Gly Pro Asn Cys Ser Glu Pro Glu Cys Pro Gly
            180                 185                 190
Asn Cys His Leu Arg Gly Arg Cys Ile Asp Gly Gln Cys Ile Cys Asp
        195                 200                 205
Asp Gly Phe Thr Gly Glu Asp Cys Ser Gln Leu Ala Cys Pro Ser Asp
    210                 215                 220
Cys Asn Asp Gln Gly Lys Cys Val Asn Gly Val Cys Ile Cys Phe Glu
225                 230                 235                 240
Gly Tyr Ala Gly Ala Asp Cys Ser Arg Glu Ile Cys Pro Val Pro Cys
                245                 250                 255
Ser Glu Glu His Gly Thr Cys Val Asp Gly Leu Cys Val Cys His Asp
            260                 265                 270
Gly Phe Ala Gly Asp Asp Cys Asn Lys Pro Leu Cys Leu Asn Asn Cys
        275                 280                 285
Tyr Asn Arg Gly Arg Cys Val Glu Asn Glu Cys Val Cys Asp Glu Gly
    290                 295                 300
Phe Thr Gly Glu Asp Cys Ser Glu Leu Ile Cys Pro Asn Asp Cys Phe
305                 310                 315                 320
Asp Arg Gly Arg Cys Ile Asn Gly Thr Cys Tyr Cys Glu Glu Gly Phe
                325                 330                 335
Thr Gly Glu Asp Cys Gly Lys Pro Thr Cys Pro His Ala Cys His Thr
            340                 345                 350
Gln Gly Arg Cys Glu Glu Gly Gln Cys Val Cys Asp Glu Gly Phe Ala
        355                 360                 365
Gly Leu Asp Cys Ser Glu Lys Arg Cys Pro Ala Asp Cys His Asn Arg
    370                 375                 380
Gly Arg Cys Val Asp Gly Arg Cys Glu Cys Asp Asp Gly Phe Thr Gly
385                 390                 395                 400
Ala Asp Cys Gly Glu Leu Lys Cys Pro Asn Gly Cys Ser Gly His Gly
                405                 410                 415
Arg Cys Val Asn Gly Gln Cys Val Cys Asp Glu Gly Tyr Thr Gly Glu
            420                 425                 430
Asp Cys Ser Gln Leu Arg Cys Pro Asn Asp Cys His Ser Arg Gly Arg
        435                 440                 445
Cys Val Glu Gly Lys Cys Val Cys Glu Gln Gly Phe Lys Gly Tyr Asp
    450                 455                 460
Cys Ser Asp Met Ser Cys Pro Asn Asp Cys His Gln His Gly Arg Cys
465                 470                 475                 480
```

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Val Asn Gly Met Cys Val Cys Asp Asp Gly Tyr Thr Gly Glu Asp Cys
                485                 490                 495
Arg Asp Arg Gln Cys Pro Arg Asp Cys Ser Asn Arg Gly Leu Cys Val
            500                 505                 510
Asp Gly Gln Cys Val Cys Glu Asp Gly Phe Thr Gly Pro Asp Cys Ala
        515                 520                 525
Glu Leu Ser Cys Pro Asn Asp Cys His Gly Gln Gly Arg Cys Val Asn
    530                 535                 540
Gly Gln Cys Val Cys His Glu Gly Phe Met Gly Lys Asp Cys Lys Glu
545                 550                 555                 560
Gln Arg Cys Pro Ser Asp Cys His Gly Gln Gly Arg Cys Val Asp Gly
                565                 570                 575
Gln Cys Ile Cys His Glu Gly Phe Thr Gly Leu Asp Cys Gly Gln His
            580                 585                 590
Ser Cys Pro Ser Asp Cys Asn Asn Leu Gly Gln Cys Val Ser Gly Arg
        595                 600                 605
Cys Ile Cys Asn Glu Gly Tyr Ser Gly Glu Asp Cys Ser Glu Val Ser
    610                 615                 620
Pro Pro Lys Asp Leu Val Val Thr Glu Val Thr Glu Glu Thr Val Asn
625                 630                 635                 640
Leu Ala Trp Asp Asn Glu Met Arg Val Thr Glu Tyr Leu Val Val Tyr
                645                 650                 655
Thr Pro Thr His Glu Gly Gly Leu Glu Met Gln Phe Arg Val Pro Gly
            660                 665                 670
Asp Gln Thr Ser Thr Ile Ile Gln Glu Leu Glu Pro Gly Val Glu Tyr
        675                 680                 685
Phe Ile Arg Val Phe Ala Ile Leu Glu Asn Lys Lys Ser Ile Pro Val
    690                 695                 700
Ser Ala Arg Val Ala Thr Tyr Leu Pro Ala Pro Glu Gly Leu Lys Phe
705                 710                 715                 720
Lys Ser Ile Lys Glu Thr Ser Val Glu Val Glu Trp Asp Pro Leu Asp
                725                 730                 735
Ile Ala Phe Glu Thr Trp Glu Ile Ile Phe Arg Asn Met Asn Lys Glu
            740                 745                 750
Asp Glu Gly Glu Ile Thr Lys Ser Leu Arg Arg Pro Glu Thr Ser Tyr
        755                 760                 765
Arg Gln Thr Gly Leu Ala Pro Gly Gln Glu Tyr Glu Ile Ser Leu His
    770                 775                 780
Ile Val Lys Asn Asn Thr Arg Gly Pro Gly Leu Lys Arg Val Thr Thr
785                 790                 795                 800
Thr Arg Leu Asp Ala Pro Ser Gln Ile Glu Val Lys Asp Val Thr Asp
                805                 810                 815
Thr Thr Ala Leu Ile Thr Trp Phe Lys Pro Leu Ala Glu Ile Asp Gly
            820                 825                 830
Ile Glu Leu Thr Tyr Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr
        835                 840                 845
Ile Asp Leu Thr Glu Asp Glu Asn Gln Tyr Ser Ile Gly Asn Leu Lys
```

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    850                 855                 860
Pro Asp Thr Glu Tyr Glu Val Ser Leu Ile Ser Arg Arg Gly Asp Met
865                 870                 875                 880
Ser Ser Asn Pro Ala Lys Glu Thr Phe Thr Thr Gly Leu Asp Ala Pro
                885                 890                 895
Arg Asn Leu Arg Arg Val Ser Gln Thr Asp Asn Ser Ile Thr Leu Glu
            900                 905                 910
Trp Arg Asn Gly Lys Ala Ala Ile Asp Ser Tyr Arg Ile Lys Tyr Ala
        915                 920                 925
Pro Ile Ser Gly Gly Asp His Ala Glu Val Asp Val Pro Lys Ser Gln
    930                 935                 940
Gln Ala Thr Thr Lys Thr Thr Leu Thr Gly Leu Arg Pro Gly Thr Glu
945                 950                 955                 960
Tyr Gly Ile Gly Val Ser Ala Val Lys Glu Asp Lys Glu Ser Asn Pro
                965                 970                 975
Ala Thr Ile Asn Ala Ala Thr Glu Leu Asp Thr Pro Lys Asp Leu Gln
            980                 985                 990
Val Ser Glu Thr Ala Glu Thr Ser Leu Thr Leu Leu Trp Lys Thr Pro
        995                1000                1005
Leu Ala Lys Phe Asp Arg Tyr Arg Leu Asn Tyr Ser Leu Pro Thr Gly
   1010                1015                1020
Gln Trp Val Gly Val Gln Leu Pro Arg Asn Thr Thr Ser Tyr Val Leu
1025                1030                1035                1040
Arg Gly Leu Glu Pro Gly Gln Glu Tyr Asn Val Leu Leu Thr Ala Glu
                1045                1050                1055
Lys Gly Arg His Lys Ser Lys Pro Ala Arg Val Lys Ala Ser Thr Glu
            1060                1065                1070
Gln Ala Pro Glu Leu Glu Asn Leu Thr Val Thr Glu Val Gly Trp Asp
        1075                1080                1085
Gly Leu Arg Leu Asn Trp Thr Ala Ala Asp Gln Ala Tyr Glu His Phe
   1090                1095                1100
Ile Ile Gln Val Gln Glu Ala Asn Lys Val Glu Ala Ala Arg Asn Leu
1105                1110                1115                1120
Thr Val Pro Gly Ser Leu Arg Ala Val Asp Ile Pro Gly Leu Lys Ala
                1125                1130                1135
Ala Thr Pro Tyr Thr Val Ser Ile Tyr Gly Val Ile Gln Gly Tyr Arg
            1140                1145                1150
Thr Pro Val Leu Ser Ala Glu Ala Ser Thr Gly Glu Thr Pro Asn Leu
        1155                1160                1165
Gly Glu Val Val Val Ala Glu Val Gly Trp Asp Ala Leu Lys Leu Asn
   1170                1175                1180
Trp Thr Ala Pro Glu Gly Ala Tyr Glu Tyr Phe Phe Ile Gln Val Gln
1185                1190                1195                1200
Glu Ala Asp Thr Val Glu Ala Ala Gln Asn Leu Thr Val Pro Gly Gly
                1205                1210                1215
Leu Arg Ser Thr Asp Leu Pro Gly Leu Lys Ala Ala Thr His Tyr Thr
            1220                1225                1230
```

Ile Thr Ile Arg Gly Val Thr Gln Asp Phe Ser Thr Thr Pro Leu Ser
1235 1240 1245
Val Glu Val Leu Thr Glu Glu Val Pro Asp Met Gly Asn Leu Thr Val
1250 1255 1260
Thr Glu Val Ser Trp Asp Ala Leu Arg Leu Asn Trp Thr Thr Pro Asp
1265 1270 1275 1280
Gly Thr Tyr Asp Gln Phe Thr Ile Gln Val Gln Glu Ala Asp Gln Val
1285 1290 1295
Glu Glu Ala His Asn Leu Thr Val Pro Gly Ser Leu Arg Ser Met Glu
1300 1305 1310
Ile Pro Gly Leu Arg Ala Gly Thr Pro Tyr Thr Val Thr Leu His Gly
1315 1320 1325
Glu Val Arg Gly His Ser Thr Arg Pro Leu Ala Val Glu Val Val Thr
1330 1335 1340
Glu Asp Leu Pro Gln Leu Gly Asp Leu Ala Val Ser Glu Val Gly Trp
1345 1350 1355 1360
Asp Gly Leu Arg Leu Asn Trp Thr Ala Ala Asp Asn Ala Tyr Glu His
1365 1370 1375
Phe Val Ile Gln Val Gln Glu Val Asn Lys Val Glu Ala Ala Gln Asn
1380 1385 1390
Leu Thr Leu Pro Gly Ser Leu Arg Ala Val Asp Ile Pro Gly Leu Glu
1395 1400 1405
Ala Ala Thr Pro Tyr Arg Val Ser Ile Tyr Gly Val Ile Arg Gly Tyr
1410 1415 1420
Arg Thr Pro Val Leu Ser Ala Glu Ala Ser Thr Ala Lys Glu Pro Glu
1425 1430 1435 1440
Ile Gly Asn Leu Asn Val Ser Asp Ile Thr Pro Glu Ser Phe Asn Leu
1445 1450 1455
Ser Trp Met Ala Thr Asp Gly Ile Phe Glu Thr Phe Thr Ile Glu Ile
1460 1465 1470
Ile Asp Ser Asn Arg Leu Leu Glu Thr Val Glu Tyr Asn Ile Ser Gly
1475 1480 1485
Ala Glu Arg Thr Ala His Ile Ser Gly Leu Pro Pro Ser Thr Asp Phe
1490 1495 1500
Ile Val Tyr Leu Ser Gly Leu Ala Pro Ser Ile Arg Thr Lys Thr Ile
1505 1510 1515 1520
Ser Ala Thr Ala Thr Thr Glu Ala Leu Pro Leu Leu Glu Asn Leu Thr
1525 1530 1535
Ile Ser Asp Ile Asn Pro Tyr Gly Phe Thr Val Ser Trp Met Ala Ser
1540 1545 1550
Glu Asn Ala Phe Asp Ser Phe Leu Val Thr Val Val Asp Ser Gly Lys
1555 1560 1565
Leu Leu Asp Pro Gln Glu Phe Thr Leu Ser Gly Thr Gln Arg Lys Leu
1570 1575 1580
Glu Leu Arg Gly Leu Ile Thr Gly Ile Gly Tyr Glu Val Met Val Ser
1585 1590 1595 1600
Gly Phe Thr Gln Gly His Gln Thr Lys Pro Leu Arg Ala Glu Ile Val

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                1605                1610                1615
Thr Glu Ala Glu Pro Glu Val Asp Asn Leu Leu Val Ser Asp Ala Thr
            1620                1625                1630
Pro Asp Gly Phe Arg Leu Ser Trp Thr Ala Asp Glu Gly Val Phe Asp
        1635                1640                1645
Asn Phe Val Leu Lys Ile Arg Asp Thr Lys Lys Gln Ser Glu Pro Leu
    1650                1655                1660
Glu Ile Thr Leu Leu Ala Pro Glu Arg Thr Arg Asp Leu Thr Gly Leu
1665                1670                1675                1680
Arg Glu Ala Thr Glu Tyr Glu Ile Glu Leu Tyr Gly Ile Ser Lys Gly
                1685                1690                1695
Arg Arg Ser Gln Thr Val Ser Ala Ile Ala Thr Thr Ala Met Gly Ser
            1700                1705                1710
Pro Lys Glu Val Ile Phe Ser Asp Ile Thr Glu Asn Ser Ala Thr Val
        1715                1720                1725
Ser Trp Arg Ala Pro Thr Ala Gln Val Glu Ser Phe Arg Ile Thr Tyr
    1730                1735                1740
Val Pro Ile Thr Gly Gly Thr Pro Ser Met Val Thr Val Asp Gly Thr
1745                1750                1755                1760
Lys Thr Gln Thr Arg Leu Val Lys Leu Ile Pro Gly Val Glu Tyr Leu
                1765                1770                1775
Val Ser Ile Ile Ala Met Lys Gly Phe Glu Glu Ser Glu Pro Val Ser
            1780                1785                1790
Gly Ser Phe Thr Thr Ala Leu Asp Gly Pro Ser Gly Leu Val Thr Ala
        1795                1800                1805
Asn Ile Thr Asp Ser Glu Ala Leu Ala Arg Trp Gln Pro Ala Ile Ala
    1810                1815                1820
Thr Val Asp Ser Tyr Val Ile Ser Tyr Thr Gly Glu Lys Val Pro Glu
1825                1830                1835                1840
Ile Thr Arg Thr Val Ser Gly Asn Thr Val Glu Tyr Ala Leu Thr Asp
                1845                1850                1855
Leu Glu Pro Ala Thr Glu Tyr Thr Leu Arg Ile Phe Ala Glu Lys Gly
            1860                1865                1870
Pro Gln Lys Ser Ser Thr Ile Thr Ala Lys Phe Thr Thr Asp Leu Asp
        1875                1880                1885
Ser Pro Arg Asp Leu Thr Ala Thr Glu Val Gln Ser Glu Thr Ala Leu
    1890                1895                1900
Leu Thr Trp Arg Pro Pro Arg Ala Ser Val Thr Gly Tyr Leu Leu Val
1905                1910                1915                1920
Tyr Glu Ser Val Asp Gly Thr Val Lys Glu Val Ile Val Gly Pro Asp
                1925                1930                1935
Thr Thr Ser Tyr Ser Leu Ala Asp Leu Ser Pro Ser Thr His Tyr Thr
            1940                1945                1950
Ala Lys Ile Gln Ala Leu Asn Gly Pro Leu Arg Ser Asn Met Ile Gln
        1955                1960                1965
Thr Ile Phe Thr Thr Ile Gly Leu Leu Tyr Pro Phe Pro Lys Asp Cys
    1970                1975                1980
```

Ser Gln Ala Met Leu Asn Gly Asp Thr Thr Ser Gly Leu Tyr Thr Ile
1985 1990 1995 2000
Tyr Leu Asn Gly Asp Lys Ala Gln Ala Leu Glu Val Phe Cys Asp Met
2005 2010 2015
Thr Ser Asp Gly Gly Gly Trp Ile Val Phe Leu Arg Arg Lys Asn Gly
2020 2025 2030
Arg Glu Asn Phe Tyr Gln Asn Trp Lys Ala Tyr Ala Ala Gly Phe Gly
2035 2040 2045
Asp Arg Arg Glu Glu Phe Trp Leu Gly Leu Asp Asn Leu Asn Lys Ile
2050 2055 2060
Thr Ala Gln Gly Gln Tyr Glu Leu Arg Val Asp Leu Arg Asp His Gly
2065 2070 2075 2080
Glu Thr Ala Phe Ala Val Tyr Asp Lys Phe Ser Val Gly Asp Ala Lys
2085 2090 2095
Thr Arg Tyr Lys Leu Lys Val Glu Gly Tyr Ser Gly Thr Ala Gly Asp
2100 2105 2110
Ser Met Ala Tyr His Asn Gly Arg Ser Phe Ser Thr Phe Asp Lys Asp
2115 2120 2125
Thr Asp Ser Ala Ile Thr Asn Cys Ala Leu Ser Tyr Lys Gly Ala Phe
2130 2135 2140
Trp Tyr Arg Asn Cys His Arg Val Asn Leu Met Gly Arg Tyr Gly Asp
2145 2150 2155 2160
Asn Asn His Ser Gln Gly Val Asn Trp Phe His Trp Lys Gly His Glu
2165 2170 2175
His Ser Ile Gln Phe Ala Glu Met Lys Leu Arg Pro Ser Asn Phe Arg
2180 2185 2190
Asn Leu Glu Gly Arg Arg Lys Arg Ala
2195 2200

<210> 57
<211> 1134
<212> DNA
<213> Homo sapience

<400> 57
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cattaccagt acgtggggaa gttggcgggc aggctgaagg aggcctccga gggcagcacg 120
ctcaccaccg tgctcttctt ggtcatctgc agcttcatcg tcttggagaa cctgatggtt 180
ttgattgcca tctggaaaaa caataaattt cacaaccgca tgtacttttt cattggcaac 240
ctggctctct gcgacctgct ggccggcatc gcttacaagg tcaacattct gatgtctggc 300
aagaagacgt tcagcctgtc tcccacggtc tggttcctca gggagggcag tatgttcgtg 360
gcccttgggg cgtccacctg cagcttactg gccatcgcca tcgagcggca cttgacaatg 420
atcaaaatga ggccttacga cgccaacaag aggcaccgcg tcttcctcct gatcgggatg 480
tgctggctca ttgccttcac gctgggcgcc ctgcccattc tgggctggaa ctgcctgcac 540
aatctccctg actgctctac catcctgccc ctctactcca agaagtacat tgccttctgc 600
atcagcatct tcacggccat cctggtgacc atcgtgatcc tctacgcacg catctacttc 660
ctggtgaagt ccagcagccg taaggtggcc aaccacaaca actcggagcg gtccatggca 720

ctgctgcgga ccgtggtgat tgtggtgagc gtgttcatcg cctgctggtc cccactcttc 780
atcctcttcc tcattgatgt ggcctgcagg gtgcaggcgt gccccatcct cttcaaggct 840
cagtggttca tcgtgttggc tgtgctcaac tccgccatga acccggtcat ctacacgctg 900
gccagcaagg agatgcggcg ggccttcttc cgtctggtct gcaactgcct ggtcagggga 960
cgggggcccc gcgcctcacc catccagcct gcgctcgacc caagcagaag taaatcaagc 1020
agcagcaaca atagcagcca ctctccgaag gtcaaggaag acctgcccca cacagccccc 1080
tcatcctgca tcatggacaa gaacgcagca cttcagaatg ggatcttctg caac 1134

<210> 58
<211> 378
<212> PRT
<213> Homo sapience

<400> 58

Met	Ala	Thr	Ala	Leu	Pro	Pro	Arg	Leu	Gln	Pro	Val	Arg	Gly	Asn	Glu
				5					10					15	
Thr	Leu	Arg	Glu	His	Tyr	Gln	Tyr	Val	Gly	Lys	Leu	Ala	Gly	Arg	Leu
			20					25					30		
Lys	Glu	Ala	Ser	Glu	Gly	Ser	Thr	Leu	Thr	Thr	Val	Leu	Phe	Leu	Val
		35					40					45			
Ile	Cys	Ser	Phe	Ile	Val	Leu	Glu	Asn	Leu	Met	Val	Leu	Ile	Ala	Ile
	50					55					60				
Trp	Lys	Asn	Asn	Lys	Phe	His	Asn	Arg	Met	Tyr	Phe	Phe	Ile	Gly	Asn
65					70					75					80
Leu	Ala	Leu	Cys	Asp	Leu	Leu	Ala	Gly	Ile	Ala	Tyr	Lys	Val	Asn	Ile
				85					90					95	
Leu	Met	Ser	Gly	Lys	Lys	Thr	Phe	Ser	Leu	Ser	Pro	Thr	Val	Trp	Phe
			100					105					110		
Leu	Arg	Glu	Gly	Ser	Met	Phe	Val	Ala	Leu	Gly	Ala	Ser	Thr	Cys	Ser
		115					120					125			
Leu	Leu	Ala	Ile	Ala	Ile	Glu	Arg	His	Leu	Thr	Met	Ile	Lys	Met	Arg
	130					135					140				
Pro	Tyr	Asp	Ala	Asn	Lys	Arg	His	Arg	Val	Phe	Leu	Leu	Ile	Gly	Met
145					150					155					160
Cys	Trp	Leu	Ile	Ala	Phe	Thr	Leu	Gly	Ala	Leu	Pro	Ile	Leu	Gly	Trp
				165					170					175	
Asn	Cys	Leu	His	Asn	Leu	Pro	Asp	Cys	Ser	Thr	Ile	Leu	Pro	Leu	Tyr
			180					185					190		
Ser	Lys	Lys	Tyr	Ile	Ala	Phe	Cys	Ile	Ser	Ile	Phe	Thr	Ala	Ile	Leu
		195					200					205			
Val	Thr	Ile	Val	Ile	Leu	Tyr	Ala	Arg	Ile	Tyr	Phe	Leu	Val	Lys	Ser
	210					215					220				
Ser	Ser	Arg	Lys	Val	Ala	Asn	His	Asn	Asn	Ser	Glu	Arg	Ser	Met	Ala
225					230					235					240
Leu	Leu	Arg	Thr	Val	Val	Ile	Val	Val	Ser	Val	Phe	Ile	Ala	Cys	Trp
				245					250					255	
Ser	Pro	Leu	Phe	Ile	Leu	Phe	Leu	Ile	Asp	Val	Ala	Cys	Arg	Val	Gln

```
            260                 265                 270
Ala Cys Pro Ile Leu Phe Lys Ala Gln Trp Phe Ile Val Leu Ala Val
        275                 280                 285
Leu Asn Ser Ala Met Asn Pro Val Ile Tyr Thr Leu Ala Ser Lys Glu
    290                 295                 300
Met Arg Arg Ala Phe Phe Arg Leu Val Cys Asn Cys Leu Val Arg Gly
305                 310                 315                 320
Arg Gly Ala Arg Ala Ser Pro Ile Gln Pro Ala Leu Asp Pro Ser Arg
                325                 330                 335
Ser Lys Ser Ser Ser Ser Asn Asn Ser Ser His Ser Pro Lys Val Lys
            340                 345                 350
Glu Asp Leu Pro His Thr Ala Pro Ser Ser Cys Ile Met Asp Lys Asn
        355                 360                 365
Ala Ala Leu Gln Asn Gly Ile Phe Cys Asn
    370                 375
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<210> 59
<211> 1152
<212> DNA
<213> Homo sapience

<400> 59

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gaggacatga ccaagacccg gaccttcttc gcagccaaga tcgtcattgg cattgcactg   180
gcaggcatca tgctggtctg cggcatcggt aactttgtct ttatcgctgc cctcacccgc   240
tataagaagt tgcgcaacct caccaatctg ctcattgcca acctggccat ctccgacttc   300
ctggtggcca tcatctgctg ccccttcgag atggactact acgtggtacg gcagctctcc   360
tgggagcatg gccacgtgct ctgtgcctcc gtcaactacc tgcgcaccgt ctccctctac   420
gtctccacca atgccttgct ggccattgcc attgacagat atctcgccat cgttcacccc   480
ttgaaaccac ggatgaatta tcaaacggcc tccttcctga tcgccttggt ctggatggtg   540
tccattctca ttgccatccc atcggcttac tttgcaacag aaacggtcct ctttattgtc   600
aagagccagg agaagatctt ctgtggccag atctggcctg tggatcagca gctctactac   660
aagtcctact tcctcttcat ctttggtgtc gagttcgtgg gccctgtggt caccatgacc   720
ctgtgctatg ccaggatctc ccgggagctc tggttcaagg cagtccctgg gttccagacg   780
gagcagattc gcaagcggct gcgctgccgc aggaagacgg tcctggtgct catgtgcatt   840
ctcacggcct atgtgctgtg ctgggcaccc ttctacggtt tcaccatcgt tcgtgacttc   900
ttccccactg tgttcgtgaa ggaaaagcac tacctcactg ccttctacgt ggtcgagtgc   960
atcgccatga gcaacagcat gatcaacacc gtgtgcttcg tgacggtcaa gaacaacacc  1020
atgaagtact tcaagaagat gatgctgctg cactggcgtc cctcccagcg ggggagcaag  1080
tccagtgctg accttgacct cagaaccaac ggggtgccca ccacagaaga ggtggactgt  1140
atcaggctga ag                                                      1152
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<210> 60
<211> 384
<212> PRT
<213> Homo sapience

<400> 60

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Met Ala Ala Gln Asn Gly Asn Thr Ser Phe Thr Pro Asn Phe Asn Pro
                5                  10                  15
Pro Gln Asp His Ala Ser Ser Leu Ser Phe Asn Phe Ser Tyr Gly Asp
            20                  25                  30
Tyr Asp Leu Pro Met Asp Glu Asp Glu Asp Met Thr Lys Thr Arg Thr
        35                  40                  45
Phe Phe Ala Ala Lys Ile Val Ile Gly Ile Ala Leu Ala Gly Ile Met
    50                  55                  60
Leu Val Cys Gly Ile Gly Asn Phe Val Phe Ile Ala Ala Leu Thr Arg
65                  70                  75                  80
Tyr Lys Lys Leu Arg Asn Leu Thr Asn Leu Leu Ile Ala Asn Leu Ala
                85                  90                  95
Ile Ser Asp Phe Leu Val Ala Ile Ile Cys Cys Pro Phe Glu Met Asp
            100                 105                 110
Tyr Tyr Val Val Arg Gln Leu Ser Trp Glu His Gly His Val Leu Cys
        115                 120                 125
Ala Ser Val Asn Tyr Leu Arg Thr Val Ser Leu Tyr Val Ser Thr Asn
    130                 135                 140
Ala Leu Leu Ala Ile Ala Ile Asp Arg Tyr Leu Ala Ile Val His Pro
145                 150                 155                 160
Leu Lys Pro Arg Met Asn Tyr Gln Thr Ala Ser Phe Leu Ile Ala Leu
                165                 170                 175
Val Trp Met Val Ser Ile Leu Ile Ala Ile Pro Ser Ala Tyr Phe Ala
            180                 185                 190
Thr Glu Thr Val Leu Phe Ile Val Lys Ser Gln Glu Lys Ile Phe Cys
        195                 200                 205
Gly Gln Ile Trp Pro Val Asp Gln Gln Leu Tyr Tyr Lys Ser Tyr Phe
    210                 215                 220
Leu Phe Ile Phe Gly Val Glu Phe Val Gly Pro Val Val Thr Met Thr
225                 230                 235                 240
Leu Cys Tyr Ala Arg Ile Ser Arg Glu Leu Trp Phe Lys Ala Val Pro
                245                 250                 255
Gly Phe Gln Thr Glu Gln Ile Arg Lys Arg Leu Arg Cys Arg Arg Lys
            260                 265                 270
Thr Val Leu Val Leu Met Cys Ile Leu Thr Ala Tyr Val Leu Cys Trp
        275                 280                 285
Ala Pro Phe Tyr Gly Phe Thr Ile Val Arg Asp Phe Phe Pro Thr Val
    290                 295                 300
Phe Val Lys Glu Lys His Tyr Leu Thr Ala Phe Tyr Val Val Glu Cys
305                 310                 315                 320
Ile Ala Met Ser Asn Ser Met Ile Asn Thr Val Cys Phe Val Thr Val
                325                 330                 335
Lys Asn Asn Thr Met Lys Tyr Phe Lys Lys Met Met Leu Leu His Trp
            340                 345                 350
Arg Pro Ser Gln Arg Gly Ser Lys Ser Ser Ala Asp Leu Asp Leu Arg
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        355                 360                 365
Thr Asn Gly Val Pro Thr Thr Glu Glu Val Asp Cys Ile Arg Leu Lys
    370                 375                 380
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<210> 61
<211> 885
<212> DNA
<213> Homo sapience

<400> 61

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tcggcgcgcg ggctcttcct ctttggccag cccgacttct cctacaagcg cagcaattgc   120
aagcccatcc ctgccaacct gcagctgtgc cacggcatcg aataccagaa catgcggctg   180
cccaacctgc tgggccacga gaccatgaag gaggtgctgg agcaggccgg cgcttggatc   240
ccgctggtca tgaagcagtg ccacccggac accaagaagt tcctgtgctc gctcttcgcc   300
cccgtctgcc tcgatgacct agacgagacc atccagccat gccactcgct ctgcgtgcag   360
gtgaaggacc gctgcgcccc ggtcatgtcc gccttcggct tcccctggcc cgacatgctt   420
gagtgcgacc gtttccccca ggacaacgac ctttgcatcc ccctcgctag cagcgaccac   480
ctcctgccag ccaccgagga agctccaaag gtatgtgaag cctgcaaaaa taaaaatgat   540
gatgacaacg acataatgga aacgctttgt aaaaatgatt ttgcactgaa aataaaagtg   600
aaggagataa cctacatcaa ccgagatacc aaaatcatcc tggagaccaa gagcaagacc   660
atttacaagc tgaacggtgt gtccgaaagg gacctgaaga aatcggtgct gtggctcaaa   720
gacagcttgc agtgcacctg tgaggagatg aacgacatca acgcgcccta tctggtcatg   780
ggacagaaac agggtgggga gctggtgatc acctcggtga agcggtggca gaaggggcag   840
agagagttca agcgcatctc ccgcagcatc cgcaagctgc agtgc                   885
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<210> 62
<211> 295
<212> PRT
<213> Homo sapience

<400> 62

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Met Leu Gln Gly Pro Gly Ser Leu Leu Leu Leu Phe Leu Ala Ser His
                  5                  10                  15
Cys Cys Leu Gly Ser Ala Arg Gly Leu Phe Leu Phe Gly Gln Pro Asp
             20                  25                  30
Phe Ser Tyr Lys Arg Ser Asn Cys Lys Pro Ile Pro Ala Asn Leu Gln
         35                  40                  45
Leu Cys His Gly Ile Glu Tyr Gln Asn Met Arg Leu Pro Asn Leu Leu
     50                  55                  60
Gly His Glu Thr Met Lys Glu Val Leu Glu Gln Ala Gly Ala Trp Ile
 65                  70                  75                  80
Pro Leu Val Met Lys Gln Cys His Pro Asp Thr Lys Lys Phe Leu Cys
                 85                  90                  95
Ser Leu Phe Ala Pro Val Cys Leu Asp Asp Leu Asp Glu Thr Ile Gln
            100                 105                 110
Pro Cys His Ser Leu Cys Val Gln Val Lys Asp Arg Cys Ala Pro Val
```

```
        115                 120                 125
Met Ser Ala Phe Gly Phe Pro Trp Pro Asp Met Leu Glu Cys Asp Arg
    130                 135                 140
Phe Pro Gln Asp Asn Asp Leu Cys Ile Pro Leu Ala Ser Ser Asp His
145                 150                 155                 160
Leu Leu Pro Ala Thr Glu Glu Ala Pro Lys Val Cys Glu Ala Cys Lys
                165                 170                 175
Asn Lys Asn Asp Asp Asp Asn Asp Ile Met Glu Thr Leu Cys Lys Asn
            180                 185                 190
Asp Phe Ala Leu Lys Ile Lys Val Lys Glu Ile Thr Tyr Ile Asn Arg
        195                 200                 205
Asp Thr Lys Ile Ile Leu Glu Thr Lys Ser Lys Thr Ile Tyr Lys Leu
    210                 215                 220
Asn Gly Val Ser Glu Arg Asp Leu Lys Lys Ser Val Leu Trp Leu Lys
225                 230                 235                 240
Asp Ser Leu Gln Cys Thr Cys Glu Glu Met Asn Asp Ile Asn Ala Pro
                245                 250                 255
Tyr Leu Val Met Gly Gln Lys Gln Gly Gly Glu Leu Val Ile Thr Ser
            260                 265                 270
Val Lys Arg Trp Gln Lys Gly Gln Arg Glu Phe Lys Arg Ile Ser Arg
        275                 280                 285
Ser Ile Arg Lys Leu Gln Cys
    290                 295
```

<210> 63
<211> 1011
<212> DNA
<213> Homo sapience

<400> 63

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atggaccaaa atgaacacag tcactgggga ccacatgcaa agggccaatg tgccagcaga    60
tctgagctga gaatcatcct ggtgggcaaa acaggaactg gcaaaagtgc tgcagggaac   120
agcatcctca ggaagcaagc atttgaatcg aagctgggtt cccagacctt gactaagact   180
tgcagcaaaa gtcagggaag ctggggaaat agagagattg tcattattga cacaccagat   240
atgttttctt ggaaggacca ctgtgaagct ctgtacaaag aggtgcagag gtgctacttg   300
ctgtctgcac caggacccca tgtgctgctc ctggtgactc agctgggccg ctatacctca   360
caggaccagc aggctgcaca gagggtgaag gagatctttg gagaggatgc catgggacac   420
acaattgtcc tctttaccca caaggaagac ctcaatggtg gctccctgat ggattacatg   480
cacgactcag ataacaaagc cctaagcaag ctggtggcag catgtggtgg gcgaatctgt   540
gcctttaata accgtgctga agggagcaat caggatgacc aagtgaagga actaatggac   600
tgtattgagg atctgttgat ggagaaaaat ggtgatcact ataccaatgg gttgtacagc   660
ctaatacaga ggtctaaatg tggacctgtg ggatcagatg aaagagtaaa ggaattcaaa   720
cagagcctta taaagtacat ggaaactcaa agaagttaca cagccttggc tgaagcaaac   780
tgcctaaaag gagccttaat caaaacacaa ctgtgtgttt tattttgtat tcagttgttt   840
ctcagattga taattctgtg gctttgcata ctgcacagca tgtgcaattt gttttgttgc   900
ttactcttta gtatgtgcaa tttattctgc agtttgctgt ttattatacc caaaaagtta   960
atgatatttt tgagaacagt tattagacta gaacgcaaga ctcctaggtt a           1011
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<210> 64
<211> 337
<212> PRT
<213> Homo sapience

<400> 64
Met Asp Gln Asn Glu His Ser His Trp Gly Pro His Ala Lys Gly Gln
5 10 15
Cys Ala Ser Arg Ser Glu Leu Arg Ile Ile Leu Val Gly Lys Thr Gly
20 25 30
Thr Gly Lys Ser Ala Ala Gly Asn Ser Ile Leu Arg Lys Gln Ala Phe
35 40 45
Glu Ser Lys Leu Gly Ser Gln Thr Leu Thr Lys Thr Cys Ser Lys Ser
50 55 60
Gln Gly Ser Trp Gly Asn Arg Glu Ile Val Ile Ile Asp Thr Pro Asp
65 70 75 80
Met Phe Ser Trp Lys Asp His Cys Glu Ala Leu Tyr Lys Glu Val Gln
85 90 95
Arg Cys Tyr Leu Leu Ser Ala Pro Gly Pro His Val Leu Leu Leu Val
100 105 110
Thr Gln Leu Gly Arg Tyr Thr Ser Gln Asp Gln Gln Ala Ala Gln Arg
115 120 125
Val Lys Glu Ile Phe Gly Glu Asp Ala Met Gly His Thr Ile Val Leu
130 135 140
Phe Thr His Lys Glu Asp Leu Asn Gly Gly Ser Leu Met Asp Tyr Met
145 150 155 160
His Asp Ser Asp Asn Lys Ala Leu Ser Lys Leu Val Ala Ala Cys Gly
165 170 175
Gly Arg Ile Cys Ala Phe Asn Asn Arg Ala Glu Gly Ser Asn Gln Asp
180 185 190
Asp Gln Val Lys Glu Leu Met Asp Cys Ile Glu Asp Leu Leu Met Glu
195 200 205
Lys Asn Gly Asp His Tyr Thr Asn Gly Leu Tyr Ser Leu Ile Gln Arg
210 215 220
Ser Lys Cys Gly Pro Val Gly Ser Asp Glu Arg Val Lys Glu Phe Lys
225 230 235 240
Gln Ser Leu Ile Lys Tyr Met Glu Thr Gln Arg Ser Tyr Thr Ala Leu
245 250 255
Ala Glu Ala Asn Cys Leu Lys Gly Ala Leu Ile Lys Thr Gln Leu Cys
260 265 270
Val Leu Phe Cys Ile Gln Leu Phe Leu Arg Leu Ile Ile Leu Trp Leu
275 280 285
Cys Ile Leu His Ser Met Cys Asn Leu Phe Cys Cys Leu Leu Phe Ser
290 295 300
Met Cys Asn Leu Phe Cys Ser Leu Leu Phe Ile Ile Pro Lys Lys Leu
305 310 315 320

Met Ile Phe Leu Arg Thr Val Ile Arg Leu Glu Arg Lys Thr Pro Arg
325 330 335
Leu

<210> 65
<211> 1173
<212> DNA
<213> Homo sapience

<400> 65
atgttcccca atggcaccgc ctcctctcct tcctcctctc ctagccccag cccgggcagc 60
tgcggcgaag gcggcggcag caggggcccc ggggccggcg ctgcggacgg catggaggag 120
ccagggcgaa atgcgtccca gaacgggacc ttgagcgagg gccagggcag cgccatcctg 180
atctctttca tctactccgt ggtgtgcctg gtggggctgt gtgggaactc tatggtcatc 240
tacgtgatcc tgcgctatgc caagatgaag acggccacca acatctacat cctaaatctg 300
gccattgctg atgagctgct catgctcagc gtgcccttcc tagtcacctc cacgttgttg 360
cgccactggc ccttcggtgc gctgctctgc cgcctcgtgc tcagcgtgga cgcggtcaac 420
atgttcacca gcatctactg tctgactgtg ctcagcgtgg accgctacgt ggccgtggtg 480
catcccatca aggcggcccg ctaccgccgg cccaccgtgg ccaaggtagt aaacctgggc 540
gtgtgggtgc tatcgctgct cgtcatcctg cccatcgtgg tcttctctcg caccgcggcc 600
aacagcgacg gcacggtggc ttgcaacatg ctcatgccag agcccgctca acgctggctg 660
gtgggcttcg tgttgtacac atttctcatg ggcttcctgc tgcccgtggg ggctatctgc 720
ctgtgctacg tgctcatcat tgctaagatg cgcatggtgg ccctcaaggc cggctggcag 780
cagcgcaagc gctcggagcg caagatcacc ttaatggtga tgatggtggt gatggtgttt 840
gtcatctgct ggatgccttt ctacgtggtg cagctggtca acgtgtttgc tgagcaggac 900
gacgccacgg tgagtcagct gtcggtcatc ctcggctatg ccaacagctg cgccaacccc 960
atcctctatg gctttctctc agacaacttc aagcgctctt tccaacgcat cctatgcctc 1020
agctggatgg acaacgccgc ggaggagccg gttgactatt acgccaccgc gctcaagagc 1080
cgtgcctaca gtgtggaaga cttccaacct gagaacctgg agtccggcgg cgtcttccgt 1140
aatggcacct gcacgtcccg gatcacgacg ctc 1173

<210> 66
<211> 391
<212> PRT
<213> Homo sapience

<400> 66
Met Phe Pro Asn Gly Thr Ala Ser Ser Pro Ser Ser Ser Pro Ser Pro
5 10 15
Ser Pro Gly Ser Cys Gly Glu Gly Gly Gly Ser Arg Gly Pro Gly Ala
20 25 30
Gly Ala Ala Asp Gly Met Glu Glu Pro Gly Arg Asn Ala Ser Gln Asn
35 40 45
Gly Thr Leu Ser Glu Gly Gln Gly Ser Ala Ile Leu Ile Ser Phe Ile
50 55 60
Tyr Ser Val Val Cys Leu Val Gly Leu Cys Gly Asn Ser Met Val Ile
65 70 75 80

```
Tyr Val Ile Leu Arg Tyr Ala Lys Met Lys Thr Ala Thr Asn Ile Tyr
                85                  90                  95
Ile Leu Asn Leu Ala Ile Ala Asp Glu Leu Leu Met Leu Ser Val Pro
            100                 105                 110
Phe Leu Val Thr Ser Thr Leu Leu Arg His Trp Pro Phe Gly Ala Leu
        115                 120                 125
Leu Cys Arg Leu Val Leu Ser Val Asp Ala Val Asn Met Phe Thr Ser
    130                 135                 140
Ile Tyr Cys Leu Thr Val Leu Ser Val Asp Arg Tyr Val Ala Val Val
145                 150                 155                 160
His Pro Ile Lys Ala Ala Arg Tyr Arg Arg Pro Thr Val Ala Lys Val
                165                 170                 175
Val Asn Leu Gly Val Trp Val Leu Ser Leu Leu Val Ile Leu Pro Ile
            180                 185                 190
Val Val Phe Ser Arg Thr Ala Ala Asn Ser Asp Gly Thr Val Ala Cys
        195                 200                 205
Asn Met Leu Met Pro Glu Pro Ala Gln Arg Trp Leu Val Gly Phe Val
    210                 215                 220
Leu Tyr Thr Phe Leu Met Gly Phe Leu Leu Pro Val Gly Ala Ile Cys
225                 230                 235                 240
Leu Cys Tyr Val Leu Ile Ile Ala Lys Met Arg Met Val Ala Leu Lys
                245                 250                 255
Ala Gly Trp Gln Gln Arg Lys Arg Ser Glu Arg Lys Ile Thr Leu Met
            260                 265                 270
Val Met Met Val Val Met Val Phe Val Ile Cys Trp Met Pro Phe Tyr
        275                 280                 285
Val Val Gln Leu Val Asn Val Phe Ala Glu Gln Asp Asp Ala Thr Val
    290                 295                 300
Ser Gln Leu Ser Val Ile Leu Gly Tyr Ala Asn Ser Cys Ala Asn Pro
305                 310                 315                 320
Ile Leu Tyr Gly Phe Leu Ser Asp Asn Phe Lys Arg Ser Phe Gln Arg
                325                 330                 335
Ile Leu Cys Leu Ser Trp Met Asp Asn Ala Ala Glu Glu Pro Val Asp
            340                 345                 350
Tyr Tyr Ala Thr Ala Leu Lys Ser Arg Ala Tyr Ser Val Glu Asp Phe
        355                 360                 365
Gln Pro Glu Asn Leu Glu Ser Gly Gly Val Phe Arg Asn Gly Thr Cys
    370                 375                 380
Thr Ser Arg Ile Thr Thr Leu
385                 390
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<210> 67
<211> 22
<212> DNA
<213> Artificial Sequence

<220>

<223> Primer

<400> 67
tcccttggtc cactcacaga ct 22

<210> 68
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 68
tgtgtaaagt acggagcgaa gttg 24

<210> 69
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 69
tgccttgcac agcctcgcaa tgagc 25

<210> 70
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 70
tgtgaaaggc acagcagtcc cga 23

<210> 71
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 71

tcagcatggg ctgctacaac ggt 23

<210> 72
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 72
ctcaagtctg tttcttcttc 20

<210> 73
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antigenic peptide

<400> 73
Arg Arg Tyr Lys Ile His Pro Asp Phe Ser Pro Ser Val Lys Gln Cys
5 10 15